VOLUME XVIII Number 12

DEC 27 1957

MEDICAL LIBRARY
HISTORICAL BUILDING
DES MOINES, IOWA

DISEASES *of the* NERVOUS SYSTEM

A Practical Journal on Psychiatry and Neurology

DECEMBER
1957

(CONTENTS ON PAGE 452)

Published monthly by PHYSICIANS POSTGRADUATE PRESS, 277 Broadway, New York 7, New York
Entered as second-class matter at the Post Office at New York, N. Y.

for the depressed and regressed

selective increase in psychic energy

MARSILID

(iproniazid) Roche

In both mild and severe depression, Marsilid can restore a sense of healthy well-being, with renewed vigor, activity and interests. Patients with acute depression refractory to shock treatment have shown a heartening response to Marsilid. Even "burned out" psychotics, untouched by any other therapy, have become more alert, responsive and sociable.

As a psychic energizer, Marsilid is truly unique. It provides continuous mood improvement with gradually reduced dosage. Patients do not develop resistance to its normalizing effect; there is no tachyphylaxis. Marsilid does not elevate blood pressure . . . does not decrease but usually stimulates appetite.

In mild depression, improvement with Marsilid is usually evident within a week or two. In severe depressive states of hospitalized psychotics, a month or more may be required for apparent response . . . but Marsilid often leads to complete remission, obviating the need for shock therapy.

Note: Marsilid is contraindicated in patients who are agitated, overactive or overstimulated, or in those with a history of renal or hepatic disease.

For complete references and information concerning dosage, indications and contraindications, write V. D. Mattia, Jr., M. D., Director of Medical Information, Roche Laboratories, Division of Hoffmann-La Roche Inc, Nutley 10, N. J.

MARSILID® PHOSPHATE – brand of iproniazid phosphate

Supplied in scored tablets of 50 mg (yellow), 25 mg (orange), and 10 mg (pink)

ROCHE *Original Research in Medicine and Chemistry*

Psychiatrists

Pacatal produces "a remarkable fluidity and warmness of affect."[1]

Patients

Pacatal makes me feel "'on top of the world' and wonderfully clear in the head."[2]

Personnel

With Pacatal "the hospital atmosphere is calmer and more optimistic . . . work more interesting."[3]

. . . agree on the euphoric effect of

Pacatal®

(BRAND OF MEPAZINE)

Pacatal is distinguished from the earlier phenothiazine compounds because it does not "flatten" the patient. Pacatal leaves him alert and cheerful—more responsive to your therapy. Side effects, too, are fewer; and when they do occur, are usually quickly controlled or reversed.

Dosage: Usual dosage for the hospitalized patient is 50 mg. 3 or 4 times daily; for the ambulant patient, 25 mg. 3 or 4 times daily. *Complete literature and dosage instructions, available on request, should be consulted.*

Supplied: 25 and 50 mg. tablets in bottles of 100 and 500; 100 mg. tablets in bottles of 500. Also available in 2 cc. ampuls (25 mg./cc.) for parenteral use.

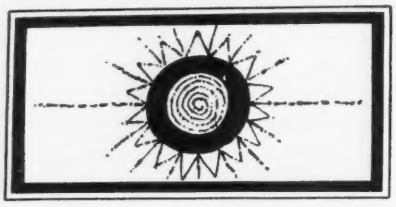
References:

1. Sainz, A.: Personal communication.
2. Hutchinson, J. T.: Evaluation of Pacatal in Psychotic States, address before the American Psychiatric Association, Nov. 16, 1956.
3. Bowes, H. A.: Am. J. Psychiat. *113*:530 (Dec.) 1956.

back from the brink with **Pacatal®**

WARNER-CHILCOTT

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION



EXT

ALL DAY — Smith, Kline & French Labo

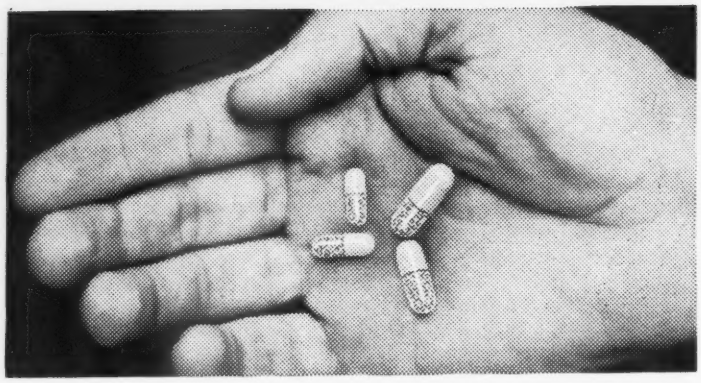
THORAZINE* CAPSULES

Convenient Dosage Form

'Spansule' capsules provide sustained release of medication over a prolonged period of time. In each capsule, hundreds of tiny, coated pellets with varying disintegration times assure a release of medication which is uniform, continuous and prolonged—regardless of individual variation in pH and motility of the intestinal tract.

Thorazine's Usefulness Enhanced

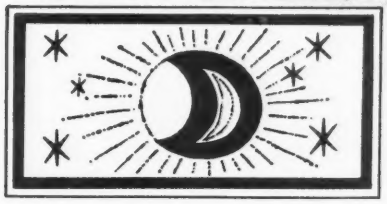
With the introduction of 'Thorazine' *Spansule* capsules, Thorazine's usefulness is extended, providing *sustained therapy* in all indications where 'Thorazine' has proved its value.



Four Strengths Offered

New 'Thorazine' *Spansule* capsules are available in four strengths—30 mg., 75 mg., 150 mg. and 200 mg.—to facilitate individual dosage regimens. In many cases, a single dose in the morning will achieve the desired response. When 24-hour therapeutic effect is desired, the morning dose may be repeated in the late afternoon or evening.

'RA



ratories, Philadelphia, Pa. ALL NIGHT

SPANSULE†

S.K.F. ANNOUNCES ALL-DAY OR ALL-NIGHT 'THORAZINE' THERAPY WITH A SINGLE ORAL DOSE

New 'Thorazine' *Spansule* capsules offer the proven efficacy of 'Thorazine' plus the advantages of all-day or all-night therapy with a single oral dose. Your patients will enjoy the convenience of only one or two doses daily. There is little risk of forgotten doses and consequent medication-free intervals. For the discharged mental patient on maintenance therapy, 'Thorazine' *Spansule* capsules will eliminate the trouble and embarrassment of taking tablets at work.

'Thorazine' *Spansule* capsules help hospital personnel save time in busy wards. Patients who require tablet medication three or more times daily can obtain the same therapeutic benefits with only one or, at the most, two doses daily.

To give you optimum flexibility in selecting and adjusting dosages for your individual patients, 'Thorazine' *Spansule* capsules are available in four strengths: 30 mg., 75 mg., 150 mg. and 200 mg.

Only one or two doses daily save time in busy wards where three or four "dosage rounds" with tablets were required.

*T.M. Reg. U.S. Pat. Off. for chlorpromazine, S.K.F.
†T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.

Volume XVIII DECEMBER 1957 Number 12

DISEASES *of the* Nervous System

Contents

THE EMOTIONAL CONVICTIONS OF THE ANALYST 463
James Clark Moloney

HYPNOSIS IN EVERYDAY LIFE 468
Galina Solovey de Milechnin

PARKINSONISM, SCHIZOPHRENIA AND ATARACTIC DRUGS 474
Walter Kruse

PHRENOTROPIC ACTION OF METHYLPHENIDYLACETATE (RITALIN) 477
Veronica M. Pennington

SUBCORTICAL FUNCTIONS OF TRIDIONE AND DESOXYN IN MENTAL ILLNESS 482
John S. Horan

BOOK REVIEWS 486

INDEX 489

EDITOR
Titus H. Harris, M.D. 112 North Boulevard, Galveston, Texas

MANAGING EDITOR
George Bisgeir, B.S., LL.B. New York, New York

ASSOCIATE EDITORS

A. F. Bennett, M.D.---Berkeley, California
Francis J. Braceland, M.D.---Hartford, Conn.
Franklin G. Ebaugh, M.D.---Denver, Colorado
Milton H. Erickson, M.D.---Phoenix, Arizona
Hamilton Ford, M.D.---Galveston, Texas
Walter Freeman, M.D.---Los Altos, California
A. Hauser, M.D.---Houston, Texas
Louis J. Karnosh, M.D.---Cleveland, Ohio
Frank H. Luton, M.D.---Nashville, Tennessee
Wm. Malamud, M.D.---Boston, Mass.
Karl A. Menninger, M.D.---Topeka, Kansas
Hans H. Reese, M.D.---Madison, Wisconsin
Lewis J. Siegal, M.D.---New York, New York
Harry C. Solomon, M.D.---Boston, Mass.
S. Bernard Wortis, M.D.---New York, N. Y.

YEARLY SUBSCRIPTION $6.00

Foreign Subscription $6.50

Typical case: "unmanageable" schizophrenic patient is hostile, untidy and inaccessible to therapy.

the "before-and-after" picture in mental wards continues to improve, case after case, with **Serpasil**® (reserpine CIBA)

With Serpasil, patient becomes calm, cooperative, amenable to interview . . . as have thousands in this new age of hope for the psychotic.

SUPPLIED:

Parenteral Solution:
Ampuls, 2 ml., 2.5 mg. Serpasil per ml.
Multiple-dose Vials, 10 ml., 2.5 mg. Serpasil per ml.

Tablets, 4 mg. (scored), 2 mg. (scored), 1 mg. (scored), 0.25 mg. (scored) and 0.1 mg.

Elixirs, 1 mg. and 0.2 mg. Serpasil per 4-ml. teaspoon.

CIBA
SUMMIT, N. J.

in spastic neurological disorders...

benefits repeatedly confirmed

for example:

in multiple sclerosis

Seven of 10 patients showed objective improvement, with "... undoubted reduction in spasticity..." in two days to four weeks.[1]

In another series—"All of the five patients with multiple sclerosis showed measurable diminution of painful spasticity..."[2]

in cerebral palsy

"The administration of zoxazolamine (Flexin) in 28 children, each of whom had spasticity, produced a decrease of muscular tone on passive flexion in every instance."[3]

"Of ten patients who received zoxazolamine (FLEXIN) for a one-month period, small but significant improvements in tests of motor function were observed in six patients and some degree of improvement was apparent in one."[4]

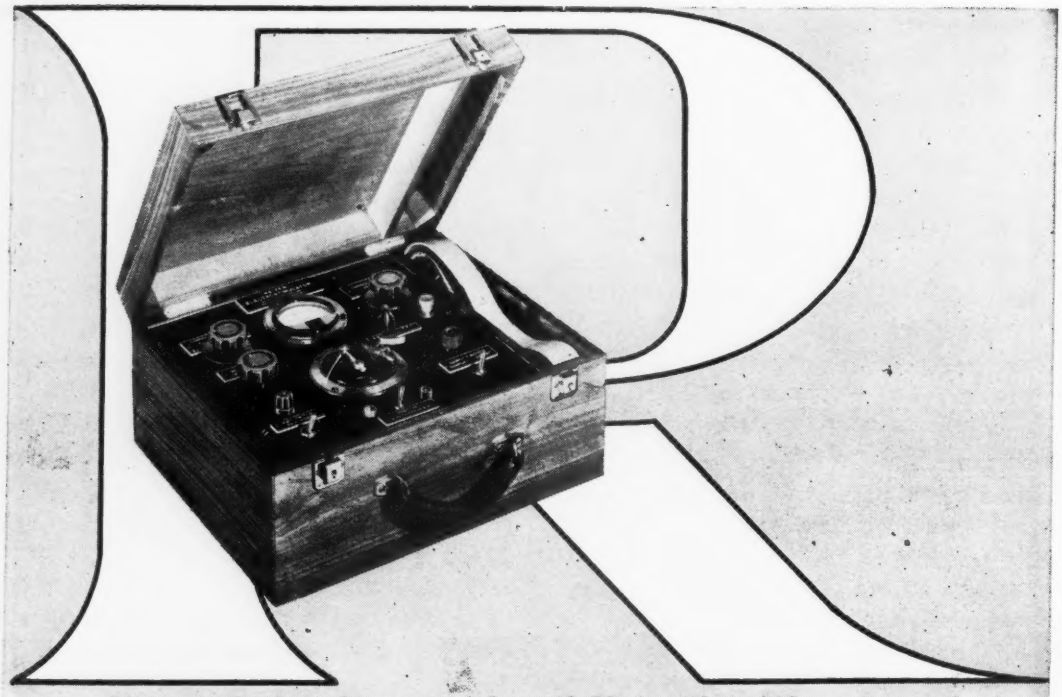
references (1) Rodriguez-Gomez, M., Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. 160:752 (Mar. 3) 1956. (2) Sattel, E.: Am. Pract. & Digest Treat. 8:443 (March) 1957. (3) Abrahamsen, E. H., and Baird, H. W., III: J.A.M.A. 160:749 (Mar. 3) 1956. (4) Millichap, J. G., and Hadra, R.: Neurology 6:843 (December) 1956.

supplied Pink, enteric coated tablets (250 mg.), bottles of 36. Yellow, scored tablets (250 mg.), bottles of 50.

*U. S. Patent Pending

11457*

McNeil Laboratories, Inc · Philadelphia 32, Pa.



the most advanced unidirectional current instrument for all established techniques

REITER MODEL RC-47D GREATLY MINIMIZES CONFUSION

The means to significantly minimize confusion is provided for in the versatile Model RC-47D. Patients are quiet and usually capable of returning to work following treatment. Fear of further treatment is greatly relieved in most patients. Efficiency of current increased. One knob control. Automatic safeguards assure an amazing reduction of thrust and apnea. The patient is often breathing before the completion of the seizure. Extremely rugged, the RC-47D withstands very long periods of use all the while maintaining the accuracy vital to delicate work within the brain. Patients resistant to all other electroshock, insulin and lobotomy forms of therapy have been successfully treated by modalities contained in Model RC-47D.

MODEL RC-47D PROVIDES FOR:

- CONVULSIVE THERAPY—*full range*
- NON-CONVULSIVE THERAPIES
- ELECTRO-SLEEP THERAPY
- FOCAL TREATMENT—*unilateral and bilateral*
- MONO-POLAR TREATMENT—*non-convulsive or convulsive*
- BARBITURATE COMA *and other respiratory problems*

ONLY REITER, THE ORIGINAL UNIDIRECTIONAL CURRENT ELECTROSTIMULATORS, ARE AUTHENTICALLY BACKED BY EXTENSIVE CLINICAL EXPERIENCE WITH OVER 200 REFERENCES IN LITERATURE AND TEXT-BOOKS.

REUBEN REITER, Sc.D.

64 WEST 48th STREET, NEW YORK 36, N. Y., ROOM 701

SQUIBB ANNOUNCES

A NEW, IMPROVED AGENT FOR BETTER MANAGEMENT OF PSYCHOTIC PATIENTS

VESPRIN

SQUIBB TRIFLUPROMAZINE 10-(3-dimethylaminopropyl)-2-(trifluoromethyl)phenothiazine hydrochloride

SCHIZOPHRENIA ■ MANIC STATES ■ PSYCHOSES ASSOCIATED WITH ORGANIC BRAIN DISEASE

chemically improved
Modification of the phenothiazine structure potentiates beneficial properties....reduces unwanted effects

pharmacologically improved
Enhanced potency with far less sedative effect

Does not oversedate the patient into sleepiness, apathy, lethargy

Drug-induced agitation minimal

Active and rapid in controlling manic states, excitement and panic... in modifying the disturbing effects of delusions and hallucinations... in moderating hostile behavior...in facilitating insight

Intractable behavior patterns brought under control... patients made accessible to psychotherapy...nursing care reduced... social rehabilitation hastened

Effective dosage levels may be reached without development of side effects

VESPR

WHAT IS IT? Vesprin—Squibb Triflupromazine—is a new, improved agent for better management of psychotic patients. It is useful in schizophrenia, manic states and psychoses associated with organic brain disease.

Vesprin is chemically and pharmacologically improved. The phenothiazine structure has been modified, resulting in potentiation of beneficial properties and in reduction of unwanted effects. Pharmacologically, Vesprin shows an enhanced potency with far less sedative effect.

CLINICAL EXPERIENCE: Data in over 600 of the hundreds of patients treated with Vesprin to date have been carefully analyzed.

In 1 series of 55 hospitalized psychotic patients treated with Vesprin, marked to moderate improvement occurred in approximately 66 per cent.

Five patients were discharged from the hospital. Two of these patients had not responded to any previous treatment.

In another small series of patients, which included 12 disturbed children, some improvement was seen in 11 of the 12 children who were treated with Vesprin for at least 2 months. In none of the children were any significant side effects observed.

In a third series of 123 psychotic patients treated with Vesprin for more than 3 months, 5 recovered from all of their active psychotic manifestations, particularly delusions and hallucinations, and 24 recovered from most psychotic manifestations with good social remission. An additional 78 patients showed significant improvement in their psychotic behavior.

Another group of schizophrenic patients has been treated with Vesprin for periods ranging from 6 months to 1 year. During this time clinical laboratory studies were made weekly, and later monthly, on urine and blood of the patients.

Although leukocyte counts showed some tendency to decrease, there were no abnormally low counts. Though hemoglobin levels tended to show some increase, it was not significant. Liver function tests performed during the final 2 months of treatment were entirely negative.

This investigator concluded that these laboratory

a new,
improved agent
for better
management
of
psychotic
patients

IN

Squibb Trifluprom azine

**In extensive clinical experience—
singularly free from toxicity**

- **Jaundice or liver damage...not observed**
- **Skin eruptions...rare**
- **Photosensitivity...rare**
- **Blood dyscrasias...not observed**
- **Hyperthermia...rare**
- **Convulsions...not observed**

studies gave no evidence of drug toxicity.
Another investigator thought that Vesprin appeared to be more active and rapid in effect. The best response to Vesprin was seen in overactive, troublesome schizophrenic patients.

WHAT ARE THE ADVANTAGES? Clinical experience in hundreds of patients has shown that Vesprin does not oversedate the patient into sleepiness, drowsiness and lethargy. Drug-induced agitation is minimal.
Vesprin is active and rapid in controlling manic states, excitement and panic, and also in controlling the disturbing effects of delusions and hallucinations. Vesprin moderates hostile behavior and facilitates insight.
With Vesprin, intractable behavior patterns are rapidly brought under control. Thus, patients are made accessible to psychotherapy. Nursing care is reduced, and the patients' social rehabilitation is facilitated.
Extensive clinical experience has shown Vesprin to be singularly free from toxicity. Clinicians who have worked with the drug over long periods have not seen jaundice or liver damage, blood dyscrasias, or convulsions. Skin eruptions, photosensitivity or hyperthermia have been rarely observed.

WHAT ARE THE SIDE EFFECTS? Investigators have reported such symptoms as dizziness, nausea, weakness, drowsiness and epigastric distress in patients treated with Vesprin. Postural hypotension has been seen occasionally in normotensive patients. A hypotensive effect has been observed in patients with high blood pressure.
Anxiety and restlessness have been observed in some patients, and gain in weight in a few. These effects have usually been mild, and, as a rule have disappeared when the dosage was reduced or treatment stopped.
The most commonly encountered side effect has been the development of a Parkinson-like syndrome with motor disturbances and extrapyramidal symptoms. This syndrome is reversible and symptoms usually subside with a reduction of dosage or discontinuance of medication for 2 or 3 days.

VESPRIN

Squibb Trifluprom azine

WHEN IS IT INDICATED? Vesprin is indicated in treatment of various acute and chronic psychoses. Because it ameliorates psychomotor hyperactivity and assaultive behavior, Vesprin is particularly useful in management of schizophrenia, manic states, sociopathic personality disturbances with psychotic reactions, mental deficiency with psychoses, and psychoses associated with organic brain disease and senility.
Contraindications: Vesprin is contraindicated in comatose states due to central nervous system depressants (alcohol, barbiturates, opiates).

WHAT IS THE DOSAGE? The recommended adult dosage of Vesprin is 25 mg. t.i.d., to be adjusted according to patient response. This dose may be increased until the desired clinical effect has been achieved, or until unwanted side effects become a problem.
The initial dose for children is 10 mg. t.i.d.
The suggested starting dose in geriatric patients is 10 mg. t.i.d. The dosage in children and elderly patients may be increased according to patient response.
The optimum dose of Vesprin varies from patient to patient and should be established on an individual basis. In the majority of patients, prolonged treatment is required for maximum clinical response.
Caution: Although no deleterious effects on the hemopoietic system have occurred to date in the extensive clinical use of Vesprin, routine blood counts are suggested during the course of therapy.
Patients should be watched for indications of soreness of the mouth, gums or throat, or for symptoms of upper respiratory infection. If these complications occur, and a confirmatory leukocyte count indicates cellular depression, the agent should be stopped and appropriate treatment, including intensive antibiotic therapy, should be started immediately.

HOW IS IT SUPPLIED? Vesprin is supplied in tablets of 10 mg., 25 mg., and 50 mg. in bottles of *50 and 500.*

'VESPRIN' IS A SQUIBB TRADEMARK

SQUIBB

Squibb Quality—the Priceless Ingredient

"MYSOLINE"®

Brand of Primidone

in epilepsy

Reports from 15 countries attest to the clinical effectiveness of "Mysoline" in grand mal and psychomotor attacks. These results are confirmed by three years of successful use in the United States. No irreversible toxic effects have been reported. When side effects such as drowsiness and ataxia occur, they are usually mild and transitory, tending to disappear as therapy is continued or dosage is adjusted.

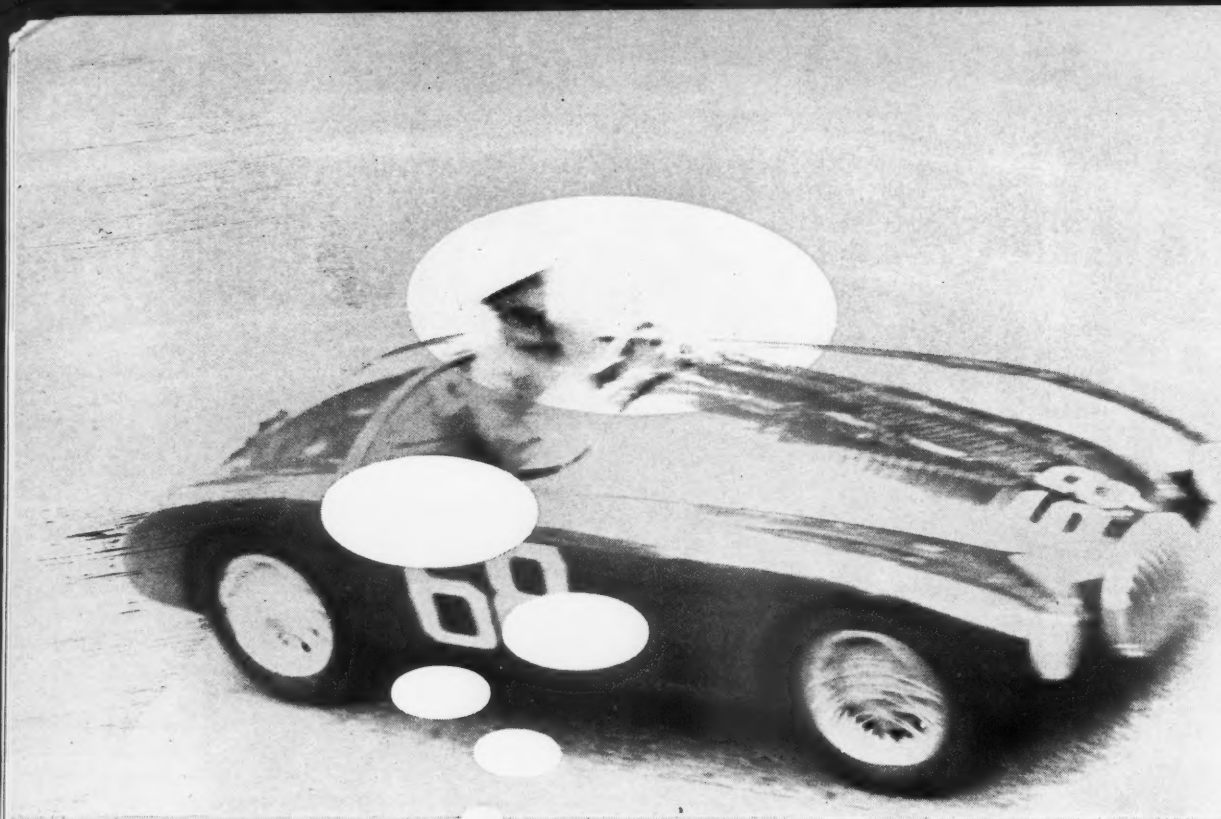
Supplied: 0.25 Gm. scored tablets, bottles of 100 and 1,000.

Ayerst®

AYERST LABORATORIES • NEW YORK, N. Y. • MONTREAL, CANADA

"Mysoline" is available in the United States by arrangement with Imperial Chemical Industries Ltd.

5760



In "Walter Mitty depression"

when deeds are merely wistful dreams . . .

(a combination of dextro-amphetamine sulfate, S.K.F., and amobarbital) will often relieve the depression and help provide your patient with the stimulus he needs to face the wearisome sameness of daily living. Drayton[1] writes: "Not only does ['Dexamyl'] exert a direct mood effect, so that the shadow of depression is lifted, but it also . . . can change a sense of depression to one of cheerfulness, assurance, optimism, energy and well-being."

Available as tablets, elixir, and Spansule* sustained release capsules.

Smith, Kline & French Laboratories, Philadelphia

1. Pennsylvania M.J. *10*:949

*T.M. Reg. U.S. Pat. Off.

Volume XVIII DECEMBER 1957 Number 12

DISEASES *of the* Nervous System

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

The Emotional Convictions of the Analyst

JAMES CLARK MOLONEY, M.D.

"The time has come," the Walrus said,
"To talk of many things;
Of shoes—and ships—and sealing-wax—
Of cabbages—and kings—"[1]

Some analysts perform as if they were absolute kings. Copying Freud, or being reinforced by Freud, they are committed to the conviction that human beings are born bad.[2] Like Freud, these kings hold that destructive trends, being constitutional, are inherited. All of this is even more important to future generations because of a Freudian addiction to the Lamarckian postulate that acquired characteristics are inheritable.[3,4]

Such an absloute attitude is not wholesome. If by training the analyst is committed to the belief that his patient is motivated by intrinsic hatreds, it becomes incumbent upon him to provide "snubbers" for the hates. Since hates combat the social order, it is necessary to harness the hates that oppose the social order. It is necessary for the training analyst to sublimate the "innate ferocities" of his patient. The patient with "inherent hate" is forcibly or fascistically rendered acceptable to the culture in which he lives. He is socialized. This approach is not much different from that which is utilized by Japanese psychiatrists who direct their psychotherapy toward adjusting the *ninjo* of their patients to the *giri* of their nation. In other words, the Japanese psychiatrists aim to make their patient's feelings (*ninjo*) conform to the institutions and mores (*giri*) of Japan.

But this simoniacal psychoanalytic climate stunts the growth of the analysand. When the neurotic stagnation existent in the analysand is induced by precognitive trauma, the world to him is not always a world of individualized people. Instead the world itself, i.e., the substance of the world at his skin, i.e., the world that is the "not you," becomes the "other person." The significant world, amorphous and undifferentiated, becomes the cosmic mother. The world in which the person lives becomes the cosmic mother to be obeyed, or the cosmic mother to be defied.

This proposition is more important than it seems at first sight. Because the Japanese analyst, if authoritarian, shapes the pattern of his analysand, the denouement of this authoritarianism deserves world-wide consideration. The Japanese analysand becomes not only a carbon copy of his Japanese analyst, but since his analyst is authoritarian, the analysand becomes culture-bound as well.[5] Operating under such an aegis psychoanalysis becomes a force for evil. A rigidified orthodox psychoanalysis of this type at the very least serves to perpetuate the evils already prevalent in the culture.

Were it possible to project upon the screen of the future the universal dissemination of orthodox psychoanalysis, an astonishing array of startling manifestations would, no doubt, be encountered. These manifestations encompass the schisms and neo-Freudian orientations and cults that in any single culture are found to split off from the original and orthodox psychoanalytic stem. This paper, however, is not concerned with this category of sectarian splits; these will have to be considered under another rubric. Here I shall be concerned with the analytic complexions that originate from the strict adherence to the Freudian position[2] that destructiveness, rage, crime, and sin are inherent as such in the psyche at birth. (Destructiveness as a post-natal acquisition has been discussed by many authors, namely Dollard et al.,[6] Jules Masserman,[7] and many others.)

There is no doubt that syncretic cultural

influences induce specific variations in the external manifestations of the orthodox psychoanalytic procedure. These manifestations are to some extent geographically determined, and if we were to project the picture of orthodox psychoanalysis upon the screen of the future, we would be confronted with innumerable topographical colorings, shadings, nuances, or outward patternings that stem from the inner command to adhere to the rigidity of Freudian orthodoxy. In the Uganda of the future one might encounter an analyst-analysand relationship that is not only orthodox Freudian but Ugandan as well. The Freudian analyst wherever found subscribes to the dogma that man is born bad. This conviction forces his analysand to police the bad to become good. And what is good? By the standards of the Ugandian, being Ugandan is being good. The Ugandan analysand in becoming a carbon copy of his well policed Ugandan analyst mirrors the Ugandan culture. The policed man turned out to be a chameleon after all. This is unfortunate. Because it is not the color of the uniform worn by the fascist that matters. What really matters is the fact that he is a fascist.

In future Uganda, Iceland, Ireland, Afghanistan, Greece, or Patagonia—it makes no difference—in the Freudian orthodoxy the fascistic attitude toward the patient is inescapable and eventually leads to an outward conformity to the culture which contains both the analyst and his analysand. The central theme is the same in each instance and these themes highlight authoritarianism as a defense against individuality. Individuality expresses too much liberalism that might free the "inherent baseness" or "destructiveness" of the analyst.

In these authoritarian situations, only the external characteristics are different. The external complexion or appearance is different because of the fact that the internal dynamism sublimating and constraining the person to conform to the established order forced the individual to conform to the picture or pattern of the established order of the culture in which he lives.

In the overall picture of cultural conformity there exists minor differences of a more personal nature. For instance, if we were to project against the screen of the future the aspects of New Hebridean orthodox psychoanalysis, we could recognize immediately the general outline of the mores and institutions of the culture that is characteristic of the New Hebrides. But in addition and in particular, one could detect the personality picture of his orthodox psychoanalyst in the warp and woof of the analyzed analysand. If alert, one recognizes that certain notable features of the analyst almost invariably crop out in the analysand analyzed by the analyst. If the future New Hebridean Psychoanalytical Society were to be dominated by an orthodox, or two or three orthodox analysts, their analysands would develop a "selective inattention" to the possibility of their maturing and becoming the adult individuals made potentially possible by their genes and internal rhythms. In a rigid psychoanalytic milieu they would copy New Hebridean patterns as well as they would copy the characteristics of their own analyst. They would reflect not only the culture of their analyst, but they would reflect his personal idiosyncrasies as well. This is contrary to what other analysts consider to be the goal of psychoanalytic therapy. George Devereux,[8] for instance, pointed out that the analysand should be encouraged, loved, and supported so that he might achieve enough inner security and inward confidence to mature, to advance, to grow, to fill out the outline pre-determined for him by his genes and inward rhythms. This has also been emphasized by Braatøy.[9]

These statements might seem astonishing to a naive student of psychoanalysis. But fact is stranger than fiction. In reality, in one chapter of the American Psychoanalytic Society analysands of a very orthodox psychoanalyst informed me that they were unable to rebel against him when the opportunity first presented itself because they were internally shackled by their unresolved transferences to this analyst. They had no choice. They had been brain-washed. Played back this sounds like the dialectic conjectures of an armchair philosopher. But the argument is supportable. Defections in leadership in one of the institutes of the American Psychoanalytic Society were so trans-

parent that the end of the institute should have been predictable.

Because the characteristics of the dominating orthodox psychoanalyst crop up in his novitiates, it is not necessary to study the dominating analyst to determine his simoniacal attitudes, complexions, peculiarities, beliefs, and viewpoints. Much is learned concerning the political or religious operations of one of these dominating psychoanalysts by scrutinizing the decorum, behavior, opinions, and prejudices of his analysands. By studying the behavior and attitudes of Dr. A. Vulpes, we approximate what is going on in the mind of his teacher, Heinrich Gordon, of Concord. Even if Gordon desired to remain incognito, even if Gordon intended to conceal his political coups and aspirations, his strategies are always exposed by the caprices of his novitiate and proselyte, John the Baptist, Dr. Vulpes. His clandestine plans, his incognito, his political aspirations are unwittingly unveiled by his Boswell. Then, in turn, if Dr. A. Vulpes attempts to play the ostrich game, his whereabouts, intents and political attitudes are unmasked by the naive behavior of his chicks. Because of the artifact peculiar to psychoanalytic orthodoxy, the rigid analyst, through a process of mirroring, is forced to live his life in a goldfish bowl.

To be sure, the effect of this authoritarian orthodox psychoanalytic attitude upon the anlaysand needs more scrutiny. This phase of the couplet needs the light of science. A parasitic superego can be established in the psyche of an analysand by the constant repetition of such cliches as: "You want to have intercourse with your mother," or "You want to castrate your father." When such traumatic commands have been repeated often enough the analysand is brain-washed. Then, during a period of relaxation, a type of "religious" experience may occur that is analogous to the religious experience of the novitiate of Zen Buddhism[10] or is analogous to the type of inspirational experience referred to by Joad.[11] The patient suddenly "sees the light." He develops a sudden "inspiration," a sudden "conviction," a surprise, a firm belief that he really does want to "castrate his father," that he really does want to "sleep with his mother." Nevertheless, this so-called "insight," a constituent part of the psychoanalytic "religious experience" is no proof at all that the analysand actually wishes to kill his father or that he actually wishes to sleep with his mother. That he wants to please his analyst, that he no longer preserves his own ego boundaries, that he seeks security through a parataxic fusion with his analyst that duplicates a phase of precognitive euphoric togotherness with the mother, proffers a more logical explanation for the existence of the psychoanalytic theophany or psychoanalytic kenosis.

This incitement to caution in the evaluation of the meaning of sudden insight in the analytic situation is supported by the careful scrutiny of the *satori* experience that occurs to the Zen Buddhist novitiate. The Buddhist novitiate is given this *koan*—"If a certain noise is made by clapping two hands together, what noise is made by the clapping of one hand?"[10] On the surface this is a ridiculous proposition. But in order to understand the nature of a *koan* and the *satori* aftermath, it is important to know that the Zen Buddhist master is not really interested in knowing the answer to this foolish question. The priest is essentially interested in forcing his novitiate to seek nirvana by erasing from his mind all traces of nettling reason. After the novitiate has fatigued his mind by the relentless contemplation of his *koan,* out of sheer exhaustion he pauses. When he relaxes a *satori* may occur in which the novitiate believes himself to be in possession of the answer to the *koan* provided him by the Zen Buddhist priest. At this time, he experiences a theophany often accompanied by flashes of light, he suddenly loses his ego boundaries. An existentialism ceases in which there is a fusion of the self and the not-self (mother representative). It is like the kayak disease described by Peter Freuchen.[12]

"It was at this time that I experienced the trance, or 'kayak disease,' . . . 'merely oil.' The air was calm as an empty room and the sun like liquid fire on the glass of the sea. The hunter must not move, for the slightest shift of his body will disturb the small craft and frighten the seals away. [Note the complete immobility, the relaxation, the incubation period.]

"It is then that the mind begins to wander crazily.

I dreamt without sleeping, resurrected forgotten episodes from my childhood. Suddenly *great mysteries** became for the moment plain to me. I cannot explain the feeling exactly, but it seemed that my soul, or spirit, or what you will, was released from my body, my life and obligations, and it soared impersonally, viewing everything as a whole."

Freudian psychoanalysts and even some neo-Freudian psychoanalysts[13] hold to the view that the sudden feeling of factuality or inspiration, the sudden enlightenment, the feeling of conviction is tantamount to the actual recognition of a truth, to the actual awareness of reality, to the sudden appreciation of a real fact. In this connection, Joad[11] and Professor Graham Wallas[14] warn that the verification by reality testing of the conviction or of the inspiration should never be neglected.

This is different from the type of "religious experience" described as insight by Thompson. Before the religious experience, the insight, the inspiration takes place. She has dealt with verifiable facts that have repeatedly intruded themselves into the analytic situation.

"PSYCHOLOGY OF THE CREATIVE PROCESS: Modern psychological theory supports the Platonic account of the aesthetic process, more particularly in respect of its recognition of two distinct stages, the first a stage of sustained intellectual effort, the second an ensuing flash of intuitive apprehension, which are very similar to those affirmed in the Symposium and the Republic. A brief account of modern psychological work on the subject may serve a useful purpose in developing the Platonic view.

"In *The Art of Thought,* Professor Graham Wallas summarized the information which modern psychology has obtained with regard to the processes involved in the birth of new ideas in the world of thought and original inspiration in that of art. His summary goes beyond that of Plato's account in that it distinguishes *four* stages in the process which leads to the making of a new generalization, the discovery of a new formula, the devising of a new invention or the conception of a new work of art. The first is that of Preparation, during which a particular problem is investigated in all direction; the second, that of Incubation, during which no conscious thinking is done in connection with the problem or work of art with which the creative thinker or artist is concerned; the third, consisting of the 'happy idea,' together with psychological events accompanying that appearance, is called Illumination; and the fourth, embodying the working out and application of the idea in thought or the execution of the work of art, Verification.

"Particular stress is laid upon the importance of Incubation as a preliminary to Illumination. Professor Wallas speaks of the many men of genius who have done their best work after a period of illness or idleness. But the period of idleness must itself be preceded by a spell of hard thinking, during which the intellect is working at full pressure. To adopt the language of modern psychology, we may say that consciousness during the Preparation stage propounds a problem, collects the relevant data and explores different avenues for a possible solution. A period of rest ensues during which the problem and relevant data are transferred to the unconscious. That the unconscious may work effectively consciousness must, so far as possible, be unoccupied. The solution is worked out by the unconscious, and appears in due course in consciousness as the 'happy idea' of the scientist and the inspiration of the artist.

"The conclusion bears out Plato's hint in the Symposium. Wallas like Plato stresses the fact that the 'happy idea' which succeeds the period of hard thinking is of an entirely different order for the thinking itself. It outruns the thinking, and, although it is led up to, is far from being necessitated by it. The mind, in other words, makes a definite jump, and it is for this reason that in the sphere of science a subsequent process of 'Verification' is necessary."[11]

To substantiate this need for verification, attention is called to a dream by Dr. Oliver Wendell Holmes.

"That reputable scientist had determined to record any dreams which occurred to him while under anesthetic. Still under the influence of the drug, he wrote down an 'inspiration' which had come to him. This was, he felt, the 'one great truth,' the 'key to all mysteries.' When he had fully regained consciousness, he reread what he had written and found that the great secret, the great inspiration, scrawled in an ungainly hand, was that 'A strong smell of turpentine prevails throughout.'

"If Holmes had been less of a scientist and more religious, if his inspiration had occurred otherwise than under the influence of anesthesia, it may well be that he would have become the instigator of a new religious movement wherein the smell of turpentine would have displaced incense as a background for the contemplation of the new faith."[15]

Aside from the unreliability of the conviction about some psychoanalytic insights that are analogous to religious experience or to *satori* there is another obvious disadvantage to the insistence by orthodox psychoanalysts that the individual is dirty, destructive, and hateful at the time of his birth. Any analyst committed to this conviction is unable to proceed without exerting a devastating effect upon his analysand. Such convictions increase the feeling of damaged esteem and

*Italics mine.

the feeling of unworthiness that always exist in the neurotic patient. These convictions increase his sense of ineradicable original sin. They further the ideas or the impressions or the feelings within the neurotic patient that he is dirty, destructive, hypocritical, unlovable. The convictions of the orthodox analyst imply that the analysand must become different, that he must forego these socially undesirable characteristics before he will qualify himself for the love and approval of his analyst. These orthodox Freudian convictions that man is born bad compound the damaged esteem in the neurotic analysand rather than relieve him of a shame that is so keenly experienced that it paralyzes his development.

GLOSSARY

enlightenment—". . . direct intuitive knowledge, superior to reasoning and discussion, and for those who receive it certain and incontrovertible."[16]

kenosis—"A theological concept closely associated with theophany is kenosis, defined by Webster as 'Christ's action of "emptying himself" on becoming man, humbling himself even to suffering death.' Webster refers to Phillippians 2:7 (revised version), which says Christ 'emptied himself, taking the form of a servant, being made in the likeness of men.' *The Abington Bible Commentary*[17] interprets this passage as meaning the Christ 'divested himself of the divine glory which he had when in the form of God . . .'"

"Whatever its theological significance, psychologically speaking the process of kneosis is one experience by many men; but there seems to me to be another meaning than the one attributed to it by theologians. Rather than kenosis being an emptying from the God (authoritarian) system into the self-system, I (Moloney) conceive it as being exactly the opposite: the memorial self-system empties into the memorial authoritarian-system. God does not, I feel, become man, but through the experiencing of God in theophany and related occurrences man becomes God, or through experiencing an inspiration, becomes God-*like* in the sense of becoming able to comprehend or achieve what was formerly felt difficult or impossible. It is the sudden release of bound energy noted above which constitutes the sense of emptying, and the flashes of light."[15]

theophany—". . . the visible manifestation of God or a god, or the arrival of an inspiration. The theophany is a manifestation of a violent, sudden vacating of the self-system."[15]

satori—"The Buddha had a vision in which with the eye of the spirit he beheld the world process and even now in Japan the Zen adepts suddenly obtain illumination . . . which gives them a new view of the Universe and makes them new men."[16]

BIBLIOGRAPHY

1. Dodgson, C. L.: (Lewis Carroll) The Walrus and the Carpenter.
2. Freud, S.: An Outline of Psychoanalysis. New York, *W. W. Norton & Co.,* 1949.
3. Bartemeier, L. H.: Freud's Contribution to the Problem of Mental Heredity. *Bulletin of the Menninger Clinic,* 6, 1942.
4. Brickner, R. M.: Normal Vertebrate Behavior as a Cause of Human Trouble," *Am. J. of Psychiat.,* 108: 801-812, 1952.
5. Moloney, J. C.: Understanding the Paradox of Japanese Psychoanalysis. *International J. of Psychoanalysis,* 34: 291-303, 1953.
6. Dollard, J., et al.: Frustration and Aggression. New Haven, Conn., *Yale University Press,* 1939.
7. Masserman, J. H.: Principles of Dynamic Psychiatry. Philadelphia, *W. B. Saunders Co.,* 1946.
8. Devereux, G.: Personal communication.
9. Braatøy, T.: Fundamentals of Psychoanalytic Technique. New York, *Wiley,* 1945.
10. Stunkard, A.: Some Interpersonal Aspects of an Oriental Religion. *Psychiatry,* 14: 419-431, 1951.
11. Joad, C. E. M.: Guide to Philosophy. New York, *Random House,* 1936, pp. 329-330.
12. Freuchen, P.: Arctic Adventure: My Life in the Frozen North. New York: *Farrar & Rinehart,* 1935, pp. 281-282.
13. Thompson, C., in coll. with Mullahy, P.: Psychoanalysis: Evolution and Development. New York, *Hermitage House,* 1950.
14. Wallas, G.: as quoted by Joad, *Op. Cit.*
15. Moloney, J. C.: Mother, God and Superego. *J. of the Am. Psychoanalytic Assn.,* 2, 1: 125-129, 1954.
16. Eliot, C.: Japanese Buddhism. London: *Edward Arnold & Co.,* 1935, p. 34.
17. Eislen, F. C., et al.: Abington Bible Commentary. Nashville, Tenn., *Abington-Cokesbury Press,* 1929, pp. 1244-1245.

Birmingham, Michigan.

Hypnosis in Everyday Life

GALINA SOLOVEY DE MILECHIN, M.D.

Before approaching the subject of the role hypnosis plays in everyday life, it is necessary to differentiate between: a) the hypnotic state in itself, and b) what is usually termed "hypnotic depth."[1]

We define the hypnotic state as an emotional state,[2] which in its purest and simplest form corresponds to the peculiar emotional state experienced by the infant receiving the caresses of his mother when he needs them.[3] This constitutes a "positive" hypnotic emotional state. The emotional condition brought about by the authoritarian attitude of the parents gives rise to the "negative" hypnotic emotional state. These states may interchange rapidly.

The degree of hypnotic depth is the extent of retrogression to the psychology of early childhood, characterized by a reduction of the critical functions, a decrease in the capacity to differentiate between the person's own thought processes and the external reality, and a less inhibited influence of mind over body.[1] In the retrogressive process, the individual does not divest himself totally of the experience acquired in the course of his life, but, as Kubie and Margolin[4] indicate, he channelizes it through a less mature psychological mechanism. These psychological peculiarities constitute one of the basic factors that make possible the fulfillment of certain suggestions which appear to be bizarre from an adult's point of view.

The maximum of hypnotic depth, or stuporous state, corresponds to a retrogression to the neo-natal psychological functioning, with imperfectly defined perceptions of the outside world, a diffuse appreciation of what is pleasurable and what is not, incomplete responses to external stimuli, etc.

This psychological retrogression is not a specific attribute of hypnosis, but takes place in all sufficiently intense emotional states. What is peculiar to the hypnotic emotional state is the possibility of controlling this retrogressed condition.

The possibility of obtaining the "phenomena" of hypnotic behavior, depends, as has been indicated, on the retrogression to the psychological functioning of early childhood, and also on the suggestibility due to the emotional motivation to accept the propositions of the operator in a certain environment, on the positive or negative type of hypnotic relationship, and on the individual traits of the subject, as regards his innate capacity to have certain phenomena and his ability to develop his latent capacities for them.[6]

*

From the moment of birth, the child is systematically led into the positive hypnotic state by its mother, through her caresses, soft speech, and lullabies, attuned to the infant's needs. The older child receives negative hypnotic inductions through the authoritarian attitude of its parents which play an important role in his education.

In their psychotherapeutic or experimental practice, the authors induce the hypnotic state in two and a half to five-year-old children by repeating as exactly as possible the procedures of their parents. In a recent article[7] we described an experiment on six selected children 25 to 37 months old, the youngest age level at which we found them able to understand what we intended to say to them. These children were observed in their home environment, for the purpose of finding out the individual nuances of their parents' attitudes and to gain their confidence. Later, we induced a hypnotic state in our office, by the sole repetition of their mothers' procedures. The shortest time required for the achievement of the hypnotic state was four minutes, and the longest, 35 minutes. Different phenomena were obtained, including catalepsy of an arm in a 29-month-old boy, on whom we repeated an experiment of Erickson,[8] who had obtained catalepsy in a five-year-old.

The understanding that the mother induces a hypnotic state in her child, has been mentioned repeatedly in the literature. For example, in 1909, Ferenczi[9] spoke of a "mother hypnosis" and a "father hypnosis."

Among the contemporary authors, Ambrose[10] indicated the elements of hypnotic induction that are found in the crooning of a song, the telling of a bed-time story, the soothing words of reassurance, etc., and LeCron and Bordeaux[11] wrote that the mother hypnotizes the child when she lulls it to sleep singing softly while cradling it in her arms. Rosen[12] stated that in the induction of the hypnotic state, the cadences employed and the modulation of the therapist's voice "duplicate the tone and manner of a loving parent when enjoyably reading fairy tales to a three-year-old." In everyday life, the mother often obtains the phenomenon of a hypnotic anesthesia, when she speaks softly to a child who has hurt himself, and kisses or pats the sore place, suggesting that the pain will soon disappear.

Induction of a hypnotic emotional state in the child by its mother is not accidental, it is vitally necessary for the infant. Ribble[13] described the negativistic or depressive reactions, affecting respiration, digestion, nutrition, etc., which appear in children who have had insufficient "psychological mothering" and may cause their death in a state of shock. Spitz[14] found that 37½% of 200 infants in institutions, lacking maternal care, died, whereas the rest had severe nutrition disorders and retarded development. Drs. Gelinier-Ortigues and Aubry[15] recently reported in detail the case of an eighteen-month-old boy, brought to a clinic in a condition of malnutrition, with deafness of psychological origin and considerable retardation in development, due to a lack of psychological mothering. This child improved rapidly from the physical and psychological points of view, on receiving this mothering from the therapists.

The hypnotic state that is brought about by the relationship of the child with its mother or a mother-substitute, has the following effects:

1) It causes an emotional stabilization, which prevents the severe disruptive influence that traumatic emotional experiences may exert on a child's organism (because of the considerable inter-dependence between body and mind in the immature individual). This makes possible a normal physical and psychological development.

2) It creates in the child a motivation to accept the propositions of its parents, as long as these propositions are not opposed to his own emotional inclination. The education of the child is based on this effect, with the participation of both positive and negative hypnotic inductions, resulting from the alternation of understanding and authoritarian attitudes.

3) It provides opportunities for the development of conditionings and associations, which will enable the individual to reinstate the hypnotic emotional state in his relationships, not only with his parents, but also with other people, or in the form of an auto-hypnosis, in the course of his life with the same benefits of emotional stabilization, re-education, etc.

The conditionings and associations to the hypnotic emotional state may be simple or complex. There are direct and simple associations to the stimuli that express the same understanding, accepting or authoritarian attitudes, by means of which the parents originally induced the hypnotic state. These associations extend to the stimuli which accompanied the early hypnotic experiences.

In a more indirect and complex manner, the hypnotic emotional state may be associated with other emotional states which the mother or mother-substitute brought about in the course of their hypnotic relationships and to the ideas that related to these emotional states, giving rise to "convictions" or "prejudices." Thus there are two ways for the induction of the hypnotic state: the direct or natural way, in which the operator shows either an understanding, accepting or authoritarian attitude, and the indirect way, which makes use of passes, bright lights, crystal balls, an awe-inspiring atmosphere, etc.[16]

Though it may seem strange, the indirect way is derived from the natural procedure. The efficacy of the passes and bright lights is due to the pre-suggestions (complex associations to emotional states and related ideas) which the person has incorporated into his own convictions. Erickson[8] wrote about this: "I have had college graduates who wanted passes and bright lights and a discussion of occult forces. And I have had

laborers who were willing to enter a trance with a professional discussion of hypnosis."

There may also be a combination of direct and indirect procedures in different proportions.

Any person, whether a parent at home, the psychotherapist in his office, the research worker in his laboratory, a religious leader, a teacher, a friend, etc., can bring about the hypnotic state as his understanding, accepting or authoritarian attitude stimulates the conditioning to and association with this particular state. If there are differences obtained in the hypnotic states such differences are due exclusively to the environment.

Thus, when two people meet in any environment, it may happen that the voice, the facial expression, the gestures, the words, etc. (which combine to reveal an attitude) of one coincide with the other's conditioning to and association with the entrance induce a "positive" or "negative" hypnotic state. Under these circumstances, a hypnotic contact may take place. Obviously there are encounters that lack the hypnotic contact—as there are unsuccessful attempts to induce the hypnotic state in the psychotherapeutic or laboratory setting. (There are cases on record in which the hypnotic state was induced only after 300 to 700 attempts.)

The hypnotic contact itself may last only a theoretical instant. It may disappear immediately, or constitute the starting point of a more or less permanent hypnotic relationship. Our everyday life is full of hypnotic contacts and brief hypnotic relationships. We are all "hypnotizers" or "hypnotized" in the course of our relationships with other people. There is great similarity between the deliberate induction of an hypnotic state in a therapeutic or experimental environments, and hypnotic relationships in everyday life. Milton H. Erickson, who has been referred to as "the most clinically astute hypnotizer of our time"[17] speaking at a seminar[8] on the induction of an hypnotic state, according to the modern orientation, made the following quoted remarks. Dale Carnegie,[18] in his book "How to Win Friends and Influence People" incorporated rules of living some of which are enumerated here.

"Be sympathetic with the other person's ideas and desires." (Carnegie)

"Meet the patient's desires and capacity to understand." (Erickson)

"Get the other person saying 'yes,' 'yes' immediately. (Carnegie)

"You ask some simple, casual questions, all of them eliciting the answer 'yes.' As soon as you have him saying 'yes' this, and 'yes' that, he's receptive." (Erickson)

"Let the other man save face." (Carnegie)

"You let him save face . . ." (Erickson)

"Be a good listener. . . . Make the other person feel important, and do it sincerely." (Carnegie)

"Your subject can always give you advice and instruction. So listen to him, observe him and his behavior . . . Too many young or inexperienced hypnotists like to emphasize their own importance and the feeling of power they may have over the subject. But it's the subject who is important." (Erickson)

"Call attention to people's mistakes indirectly." (Carnegie)

"In psychotherapy, it is always better to get things indirectly." (Erickson)

"Become genuinely interested in other people . . . Talk in terms of the other man's interest." (Carnegie)

(Explaining what had been done in a demonstration.) "She (the subject) undoubtedly had a feeling that I was interested in what she said and did, and I emphasized her own interest and outlined the possibilities for her." (Erickson)

The advice given by both authors is in essence identical, even though one speaks about the induction of the hypnotic state in the psychotherapeutic or experimental setting, and the other refers to the winning of friends and influencing of people. Both Erickson and Carnegie want the subject to feel motivated to act according to their desires. Each requests of the subject a behavior which is adequate to the environment. Erickson tries to get the subject to perform certain tasks, like the lifting of a hand or the closing of the eyes, adequate in the laboratory of psychological experimentation, and calls this procedure "the right preparation for hypnotic induction." Carnegie, after having proceeded according to his rules, gets the subject to carry out more complex tasks than those proposed by Erickson and calls his procedure "how to win friends and influence people." It is evident that entrance into the hypnotic state is not achieved by suggestions of hand-lifting or eye-closure, but by the more subtle "preparation" that precedes them and gets the sub-

ject to feel motivated to carry out these acts, or any other acts the operator may have proposed. To have this motivation, the subject must already be in a hypnotic state of some intensity. What Erickson calls a "preparation" is really a direct or natural procedure of hypnotic induction, the success of which naturally requires the subject's emotional disposition to accept the proffered attitude from that particular person.

Neither is the hypnotic state achieved by sleep-suggestions, nor is it a sleeping state. The subject merely behaves in a sleep-like manner to comply with the request of an operator who has established the hypnotic relationship with him, or because he believes that the operator is trying to make him enter a sleep-like condition. Actually the sleep-suggestions are often omitted in the therapeutic and experimental setting and a "waking hypnotic state" obtained. The hypnotic state is not really "induced" from outside, but it develops within the psyche of the subject. The vital process within the egg as it were is merely stimulated by the warmth of an incubator.[8] In the development of the hypnotic state, this warmth is represented by the adequate inter-personal relationship.

Watkins[19] has said: "The induction of trance is therefore not largely a matter of technical manipulation, but more a problem of understanding and interacting in an intimate inter-personal relationship situaiton." This relationship may exist not only between the hypnotist and the hypnotized, or the therapist and his patient, but also between husband and wife, friends, classmates, or in any inter-personal encounter.

In connection with the hypnotic emotional state there is, of course, the process of psychological retrogression, which takes place after the hypnotic emotional state has reached a certain intensity. We have not tried to determine whether the hypnotic states in everyday life are "hypnoidal states" (that is, states without an evident retrogression) or "hypnotic states" accompanied by a marked degree of psychological retrogression. We believe that the differentiation between the hypnoidal and the hypnotic states is artificial and unwarranted.

In the first place, it is impossible to define the moment in which the psychological retrogressive process begins. Only the advanced stages of retrogression are recognized, when the person has reached a sufficient degree of immature psychological functioning to be able to have certain forms of behavior (like hallucinations, psychological influence over his viscerae, etc.) very different from his usual reactions. Moreover even the advanced stages of psychological retrogression may pass unrecognized. Erickson[20] made an interesting demonstration of this possibility by inducing a deep, or somnambulistic hypnotic state in a student and having her give a lecture on hypnotism to a group of psychologists and psychiatrists. None of those present found anything strange in this young woman's behavior, nor recognized her deep hypnotic state.

It is not always possible to explore the kind of psychological functioning a person has at a given moment, that is, whether it is mature, or retrogressed to an immature level, since the "tests" which can be made in one environment cannot be offered in another. In a laboratory of psychological research work, it is easy to say to a person whom we suppose to be in a retrogressed condition, that we want him to keep his arm rigid and motionless for a long time (catalepsy) or to experience a hallucination. The laboratory setting in itself creates a motivation for this kind of behavior. But it would be inadequate and even shocking to do these tests in a doctor's office, where the motivations of the subject differ, or while speaking to a person in the street.

The hypnotic relationships in everyday life fluctuate continuously. There are qualitative fluctuations, corresponding to alternation of "positive" and "negative" hypnotic states, and quantitative fluctuations regarding the persistence of the hypnotic relationship. It is not difficult to pass from a positive kind of hypnosis, associated with an understanding and accepting attitude, to the negative kind, associated with an authoritarian attitude, and vice versa, just as the child passes from one of these states to the other in the course of its relationship with its parents.

Since a hypnotic state is an emotional condition, its duration is variable (from min-

utes to several hours after the stimulation has ceased). But like other emotional states, it may be reactivated repeatedly. An operator who has induced a hypnotic state in his subject once, has increased probabilities of reactivating it in future encounters. A simple greeting may be sufficient for its reactivation. If these two persons meet every day and remain in contact several hours the hypnotic relationship may be permanent. This does not mean, however, that the hypnotic relationship will persist indefinitely. At any moment it may be interrupted or blocked by an attitude that is inadequate to maintain it. This happens when the operator opposes the desires and deep convictions of the subject. It may be blocked temporarily or permanently, and not only in the inter-personal relationships in everyday life, such as those between parents and child, but also in the therapeutic or experimental environment, when the hypnotist, who has induced the hypnotic state in his subject once or twice, becomes unable to do so in succeeding sessions.

A "principal hypnotic relationship" is a relationship that is constantly reactivated, as the one between child and parents and those that may exist between pupil and teacher, intimate friends, etc. The "secondary hypnotic relationships" are temporary. The possibility of establishing secondary hypnotic relationships with many people, increases with the extension of the circle of interpersonal contacts of an individual, as happens in the course of his normal development. At a certain moment, a secondary hypnotic relationship may become principal and the one which was principal may become secondary or disappear.

Obviously, the principal hypnotic relationships have an immense importance in the formation of a person's convictions and personality. Their effects, whether favorable or not, can hardly be neutralized by a person who establishes a secondary hypnotic relationship with the individual and pretends to "re-educate" him. Thus the individual is made up of his habits, his concepts, his ethical and religious values, etc., that is, all that is understood by "education." We have already indicated that education is carried out on the basis of both kinds of hypnotic relationships: the positive and the negative ones.

Why are some concepts transmitted by the educators firmly etched in the child's mind, while others are rapidly forgotten? Emotions play a fundamental role in the integration of ideas into the individual's own personality (which is a requirement for their persistence). This integration has increased probabilities of taking place when the transmitted concepts agree with the recipient's own emotional inclinations or when the person who transmits them is capable of provoking an emotional state that favors their acceptance. This point which is of utmost importance in education requires intensive research for as yet education has not been associated with hypnotic relationships.

There can be hypnotic relations among several persons at the same time. An operator who induces and maintains a hypnotic relationship with more than one subject is comparable to the parent who has simultaneous hypnotic relationships with more than one child. It is also possible for several operators to share the hypnotic relationship with a given subject. A person may at the same time be the "subject" in one hypnotic relationship, and the "operator" in another. For example, Erickson[5] has performed the experiment of inducing the hypnotic state in one of his assistants while this assistant was inducing the hypnotic state in an experimental subject.

An auto-hypnotic state occurs when the stimulus that helps the subject to develop the hypnosis in himself is of an impersonal nature. Schematically there may be primary or secondary stimuli.

The first correspond to the direct associations with the "positive" emotion-stabilizing hypnotic state experienced from the earliest phases of life. These are associations common to all people, in a state of muscular relaxation—soft tones, warm environment, etc.—they are subsequently elaborated and adapted to each individual. Children's play constitutes an important source of autohypnotic experiences[22] and helps to extend these associations. Williams[21] described common situations in everyday life that stimulate some people to enter a hypnotic state with nuances of emotional stabilization, such as

fishing in still waters, the solemn atmosphere of a church, enjoying music or certain forms of literature, etc.

The stimuli of secondary type bring about an autohypnotic state through various factors which were emotionally incorporated by the person in the course of his principal hypnotic relationships, in a later phase of psycho-physiological development. Such factors have vastly different emotional nuances, in the guise of fears, convictions, devotions, etc. They have strictly personal characteristics, varying even in members of the same family. They are in a constant process of modification and development, according to the individual's experiences and the re-educational effects of his new principal hypnotic relationships.[23]

When a person encounters under adequate psychological circumstances, in his environment, in his reading, at the cinema, the very factors he incorporated emotionally, he may be stimulated to enter a more or less intense autohypnotic state, that will bear the same emotional nuance that accompanied the incorporation of that factor.[16] In its turn, the autohypnotic state may be transformed into an interpersonal hypnotic relationship, if the person experiencing it chances to meet somebody whose appearance or behavior may be linked to the factor that stimulated the autohypnosis. A classic example of this situation is a theatrical demonstration of hypnotism, where the "hypnotist" transforms by a mere word or gesture the autohypnotic state the subject is already experiencing, into an interpersonal hypnotic relationship. The appearance of a mouse in the same theater would have determined equivalent autohypnotic responses. The "all-powerful hypnotist" has a single advantage over the mouse —the power of speech that enables him to give "suggestions" which act as a litmus paper[24] to reveal the peculiar capacities that may exist in the state of psychological retrogression.

REFERENCES

1. Solovey de Milechnin, G.: Concerning the Concept of Hypnotic Depth. *J. of Clin. and Exp. Hypnosis,* Vol. III, No. 4, 1955.
2. Guze, H.: Hypnosis as Emotional Response: A Theoretical Approach. *J. of Psychology,* 35: 313-328, 1953.
3. Solovey de Milechnin, G.: Concerning a Theory of Hypnosis. *J. of Clin. and Exp. Hypnosis,* Vol. IV, No. 1, 1956.
4. Kubie, L. S., and Margolin, S.: The Process of Hypnotism and the Ntaure of the Hypnotic State. *Am. J. of Psychiat.,* 100: 611-622, 1944.
5. Solovey de Milechnin, G.: Concerning the Stuporous Trance State. *Br. J. of Med. Hypnotism.,* Vol. VII, No. 4, 1956.
6. Solovey de Milechnin, G.: Concerning the Attributes of the Hypnotic State. *J. of Clin. and Exp. Hypnosis,* Vol. IV, No. 3, 1956.
7. Solovey de Milechnin, G.: Concerning Some Points About the Nature of Hypnosis. *J. of Clin. and Exp. Hypnosis,* Vol. IV, No. 2, 1956.
8. Erickson, M. H.: Seminar on Hypnosis. Los Angeles 1953.
9. Ferenczi, S.: Contributions to Psychoanalysis. (Trans. E. Jones.) Boston, Badger, 1916.
10. Ambrose, G.: Psychological Treatment in a Child Guidance Clinic. *Br. J. Med. Hypnotism,* Vol. III, No. 1, 1951.
11. LeCron, L. M., and Bordeaux, J.: Hypnotism Today, N. Y., *Grune & Stratton,* 1949.
12. Rosen, H.: Hypnotherapy in Clinical Psychiatry. *N. Y. Julian Press,* 1953.
13. Ribble, M. A.: Disorganizing Factors of Infant Personality. *Am. J. of Psychiat.,* 98, 1941.
14. Spitz, R. A.: Hospitalism.—*The Psychoanalyt. Stud. of the Child.* II, 1945, and Analytic Depression, 1956.
15. Gelinier-Ortigues, M. C., and Aubry, J.—in Emotional Problems of Early Childhood. Ed. G. Caplan. *N. Y. Basic Books, Inc.,* 1955.
16. Solovey G., and Milechnin, A.: Concerning the Induction of the Hypnotic State. *J. of Clin. and Exp. Hypnosis,* Vol. V, No. 2, 1957.
17. Conn, J. H.: Hypnosynthesis. Hypnosis as a Unifying Interpersonal Experience. *J. Nerv. and Ment. Dis.,* 109: 9-24, 1949.
18. Carnegie, D.: How to Win Friends and Influence People. N. Y. *Simon and Schuster,* 1940.
19. Watkins, J.: Trance and Transference. *J. Clin. and Exp. Hypnosis,* Vol. II, 284-290, 1954.
20. Erickson, M. H.: Deep Hypnosis and Its Induction—in Experimental Hypnosis. Ed. LeCron. N. Y. *MacMillan,* 1952.
21. Williams, G. W.: Hypnosis in Perspective—in Experimental Hypnosis. Ed. LeCron, New York, *MacMillan,* 1952.
22. Solovey, G., and Milechnin, A.: Concerning Some Principles of Hypnotherapy. *Br. J. of Med. Hypnotism,* Vol. IX, No. 1, 1957.
23. Solovey, G., and Milechnin, A.: Concerning Hypnotic and Posthypnotic Suggestions. *Br. J. of Med. Hypnotism,* Vol. VIII, No. 3, 1957.
24. Solovey, G., and Milechnin, A.: Concerning the Nature of Hypnotic Phenomena. *J. of Clin. and Exp. Hypnosis,* Vol. V, No. 2, 1957.

Parkinsonism, Schizophrenia and Ataractic Drugs

WALTER KRUSE, M.D.

In reviewing the huge number of publications on ataractic drugs it was noted that the question of their "side-effects" has become more and more important. Not only the increasing number of treated patients is responsible for this, but also the fact that most of the "side-effects" were overlooked at first, and only after interest in these "side-effects" had been aroused were they observed in ever greater numbers.

Kline, Barsa and Gosline, in a recent publication,[1] differentiate 25 physical and 12 psychological "side-effects" some of the latter being evident in practically all patients. A number of these "side-effects" are undesirable and even harmful; others are not a serious complication and may actually be closely related to the essential effect that we intend to produce in our patients. It is our opinion that there is evidence that parkinsonism is not just a "side-effect" of the ataractic drugs as many workers believe. In this paper I will attempt to review and discuss this evidence. In order to simplify the situation the discussion will deal only with schizophrenic patients. The ataractic drugs considered here are chlorpromazine and reserpine.

At the outset it is essential that we define terms. What do we mean when we speak of parkinsonism? It is a syndrome found in various conditions, among others in Parkinson's disease (paralysis agitans) and in the chronic stage of encephalitis lethargica. The more important of its neurological symptoms are muscular rigidity, including facial rigidity, cogwheeling of limbs, tremor, loss of associated movements, drooling, "greasy" skin, impaired convergence. It would be a mistake, however, to consider parkinsonism as a purely neurological or "physical" syndrome, as is frequently done. It is hard to understand that in this era of psychosomatic medicine the psychological side of parkinsonism should be so completely disregarded. This is the more surprising since in the past some extrapyramidal symptoms were actually misinterpreted as neurotic symptoms (Charcot, Zingerle, Oppenheim, quoted after Jacob[2]). Studies on postencephalitic and other patients suffering from extrapyramidal disorder have shown that typical psychological symptoms were just as regularly found as the characteristic neurological symptoms.

Economo[3] states that the psychic disturbances are more distinctly marked in the initial stage of the sequelae of encephalitis lethargica; later on they may disappear or improve but they may accompany the chronic state to the end. He describes as the most frequent mental symptoms the psychic torpor (bradyphrenia) and lack of emotion. The patients show emotional indifference and diminished reactivity toward external stimuli. "This difficulty in arousing emotion in the sequelae of encephalitis lethargica is above all a primary defect, as is probably also the lack of spontaneity. . . . The lack of spontaneity cannot be explained by the rigidity as there is akinesis in many cases without any rigidity of the musculature."[3]

According to Naville's description, bradyphrenia consists mainly of a diminution in voluntary attention, of spontaneous interest, of initiative, of a capacity for effort and for work. (Quoted after Neal.[4])

Fluegel[5] was, as far as we can see, the first investigator to recognize the significance of the parkinsonian syndrome in ataraxic patients. He observed the psychological symptoms of parkinsonism—decreased initiative, emotional indifference with decreased reactivity toward external stimuli—before any of the physical symptoms had appeared, but more frequently psychological and physical symptoms were present at the same time. He felt that the drug-induced parkinsonian reaction was therapeutically valuable.

Haase[6,7] found the typical micrography of parkinson patients in 86 per cent of his ataraxic patients. He pointed out that, according to Pophal, micrography corresponds directly with loss of vitality and initiative. Rigidity and tremor may be unrelated to the

From Danvers State Hospital, Hathorne, Mass.

psychic condition, but slowness of movements and diminution of associated movements are in close correlation to psychic damping of initiative which finds expression in micrography. In most of these patients he saw inhibition of the "driving power" and of spontaneity. The lack of initiative that is found in lobotomized patients should, according to Haase, be differentiated from lack of initiative that is associated with centers in the brain stem. While the lobotomized patient identifies himself with his lack of initiative and makes no effort to overcome it, the parkinsonian patient regards his loss of interest and activity as an obstacle that he tries to overcome and often succeeds. From many interviews with his patients Haase learned that they did not really show the symptoms of "pharmacological lobotomy" but rather the characteristic signs of a "brain-stem type" of lack of initiative.

Staehelin[8] pointed out a possible antagonism between schizophrenia and drug-induced parkinsonism. Experience with chronic schizophrenics that contracted encephalitis lethargica had shown that their mental condition improved considerably after they had developed parkinsonian symptoms. Similar ideas were expressed by Steck,[9] Janzarik,[10] Mielke[11] and Ditfurth.[12]

In this country, Cohen[13] writing about the "undesirable effects" of chlorpromazine found signs referable to the basal ganglia in approximately 20 per cent of his patients. The characteristic psychological signs were not recognized as such. Hall et al.[14] found 40 per cent "neurotic reactions" in their patients and only a weak and equivocal association of neurotoxic reactions with psychiatric improvement.

Brooks[15] was the first one to recognize the importance and significance of parkinsonism in ataraxic patients. Although he took into consideration only the neurological symptoms he found them in 89 per cent of 181 patients. It was his opinion that "signs of parkinsonism heralded the particular effect being sought." "The initial sign of improvement often coincides with the onset of obvious extrapyramidal disorder." He found also that in relieving the patient of these neurological symptoms by the addition of antiparkinsonian drugs he could speed the progress of recovery.

Our own experience has been that the occurrence of the psychological symptoms of parkinsonism is a reliable indicator of the therapeutic effect of ataractic drugs. And very seldom indeed are these psychological symptoms not accompanied by one or the other of their physical counterparts. If these physical symptoms are pronounced they constitute an undesirable effect, and their alleviation by additional drugs will benefit the patient. However, it would be wrong to substantially decrease the dosage of the ataractic drug as in such a case the desirable psychological effect would be reduced too.

While it is not possible at this time to obtain a clear picture of the mechanism of the ataractic drugs in schizophrenic patients, it can be said that the psychological effect simulates the mental symptoms of parkinsonism and may well have something to do with the therapeutic effect. Emotional indifference and the establishment of a psychic distance between the patient and his environment with resulting diminished reactivity to external stimuli may be related to a more aloof attitude toward delusional ideas. Inhibition of initiative and of the "driving power," damping of activity, spontaneity or dynamic impulse may well correspond to an inhibition of psychotic productions.

Neal[4] mentions a very interesting peculiarity that was first observed by Schilder:[16] Chronic encephalitic patients suffering from a psychosis exhibit a high degree of insight in the midst of their psychotic productions. In our experience, schizophrenic patients treated with ataraxics showed the same phenomenon. While they still harbored many delusional ideas and were subject to auditory hallucinations they were obviously less impressed by them. They began to doubt the reality of their "voices," and statements such as "I must be very sick to have these experiences" were frequently heard. At first the signs of improvement were present only temporarily, but gradually the periods of overt psychotic behavior became shorter. The production of delusional ideas subsided, the "voices" seemed to come from a greater distance and were less obtrusive, and they finally stopped altogether. Other patients,

who were reluctant to discuss their psychotic experiences, seemed to lose interest in these experiences and would finally "forget" without developing a true insight. It was our impression that, in general, the therapeutic effect of the ataraxics was more desirable than for example the one achieved by electroshock with its rather unpleasant repeated temporary disconnections from the past and its memory disturbances.

In a recent publication, Mettler[17] advanced a hypothesis that is quite interesting in this connection. He believes that the primary psychologic abnormality underlying the schizophrenic process is disordered perception and that the substrate of such disorder is a preperceptual difficulty caused by a dysfunction of the striatum. Mettler stresses the relationship between the incidence of schizoid states and paralysis agitans in different members of the same family and also between the symptomatology of parkinsonism and catatonic rigidity. He states that catatonic patients in going into and out of their state of rigidity traverse a clinical territory indistiguishable from parkinsonism, and on the other hand many parkinsonian patients go on to a schizoprenic symptomatology. Thus we see that Mettler believes in the essentially related nature of schizophrenia and parkinsonism, an idea that was expressed, in a different way, by the early researchers in encephalitis lethargica, particularly von Economo.

Lehmann[18] reported dramatic therapeutic results in extrapyramidal disorders with chlorpromazine, the same drug that is so effective in schizophrenia. The close chemical relationship of this ataraxic to some of the newer anti-parkinsonian drugs may be of importance. Other investigators (Staehelin, Steck, Haase, Ditfurth, Fluegel, et al.) consider that there is an antagonistic relation between these two conditions.

To me it seems that these different views are not necessarily incompatible. Fully aware of the multiple dangers that accompany extreme simplification and schematization of a psychiatric problem, and only to show the close interrelationship that characterizes the subjects under discussion, I attempt to illustrate the situation (Fig. 1).

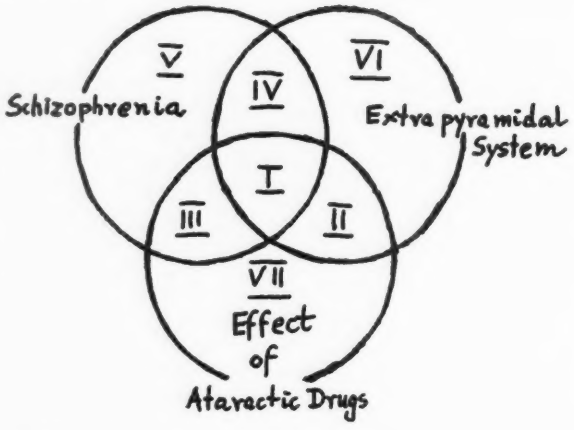


Figure 1. Areas I plus II represent the parkinsonian syndrome as caused by ataraxics. Area I would include the part of it that may have a therapeutic effect in schizophrenia.

Area II would represent the part of the drug-induced parkinsonian syndrome that is not valuable in the therapy of schizophrenia. It may also indicate the possible therapeutic effect of ataraxics in extrapyramidal disorders (Lehmann).

Area III represents the effect other than parkinsonian that has therapeutic value in schizophrenia.

In areas I plus IV the common ground of schizophrenia and extrapyramidal disorders (Mettler's hypothesis) could be found.

Areas IV plus V: Schizophrenic symptoms not directly influenced by ataraxics.

Area VI would represent the part of the extrapyramidal system that is not affected by ataraxics and that has no direct relation with schizophrenia.

Area VII: the part of ataractic effect (other than parkinsonian) that does not directly influence schizophrenia, but may be of therapeutic value in other conditions.

Summary

The appearance of the neurological symptoms of parkinsonism in ataraxic patients is usually regarded as an undesirable "side-effect." The true significance of parkinsonism, however, becomes evident when its psychological symptoms are also taken into account. While these characteristic mental signs—bradyphrenia and emotional indifference—are probably closely related to the therapeutic effect of the ataractic drugs it is believed that the neurological symptoms of parkinsonism are not undesirable in themselves. They may require specific, additional medication, but their appearance indicates that a therapeutic dosage has been reached.

In using the parkinsonian effect of ataraxics as a basis, an attempt is made to illustrate the close relationship between schizophrenia and extrapyramidal system.

REFERENCES

1. Kline, N. S., Barsa, J., Gosline, E.: Management of the Side Effects of Reserpine and Combined Reserpine-Chlorpromazine Treatment. *Dis. Nerv. System,* XVII: 352-358, Nov. 1956.
2. Jacob, H.: Wahrnehmungsstörung und Krankheitserleben. Berlin: *Springer Verlag,* 1955.
3. V. Economo, C.: Encephalitis Lethargica. Its Sequelae and Treatment. London: *Oxford University Press,* 1931.
4. Neal, J. B.: Encephalitis. A Clinical Study. New York: *Grune & Stratton,* 1942.
5. Fluegel, F.: Neue klinische Beobachtungen zur Wirkung des Phenothiazinkörpers "Megaphen" auf psychiatrische Krankheitsbilder. *Med. Klin.,* 48:29; 1027-1029, July 17, 1953.
6. Haase, H. J.: Über Vorkommen und Deutung des psychomotorischen Parkinsonsyndroms bei Megaphen bzw. Largactil Dauerbehandlung. *Nervenarzt,* 25: 486-492, December 1954.
7. Haase, H. J.: Psychiatrische Erfahrungen mit Megaphen (Largactil) und dem Rauwolfiaalkaloid Serpasil unter dem Gesichtspunkt des Psychomotorischen Parkinson syndroms. *Nervenarzt,* 26: 507-510, Dec. 1955.
8. Staehelin, J. E.: Einige allgemeine Bemerkungen über die Largactiltherapie in der Psychiatrischen Universitätsklinik Basel. *Schweiz. Arch. Neurol. u. Psychiat.,* 73: 288-291; 1954.
9. Steck, H.: Le Syndrome extrapyramidal et diencéphalique au cours des traitements au largactil et au serpasil. *Ann. méd.-psychol. Paris,* 112: 737-744, 1955.
10. Janzarik, W.: Zur Psychopathologie der Megaphenwirkung. *Nervenarzt,* 25: 330-335, August 1954.
11. Mielke, F. A.: Übersicht der klinischen Erfahrungen mit Serpasil am Burghölzli. *Schweiz. Med. Wchnsch.,* 85 (19): 440-442, May 7, 1955.
12. V. Ditfurth, H.: Anwendungsmöglichkeiten des Megaphens in der psychiatrischen Klinik und Forschung. *Nervenarzt,* 26: 54-59, Feb. 1955.
13. Cohen, I. M.: Undesirable Effects and Clinical Toxicity of Chlorpromazine. *J. Clin. & Exper. Psychopath.,* XVII, 2: 153-163, June 1956.
14. Hall, R. A., Jackson, R. B., Swain, J. M.: Neurotoxic Reactions Resulting from Chlorpromazine Administration. *A.M.A.J.,* 161: 214-218, May 19, 1956.
15. Brooks, G. W.: Experience With the Use of Chlorpromazine and Reserpine in Psychiatry. *New Eng. J. Med.,* 254:1119-1123, June 14, 1956.
16. Dimitz, L., and Schilder, P.: Über die psychischen Störungen bei der Encephalitis epidemica des Jahres 1920. *Ztschr. ges. Neurol. u. Psychiat.,* 68:299-307, 1921.
17. Mettler, F. A.: Perceptual Capacity, Functions of the Corpus Striatum and Schizophrenia. *Psychiat. Quart.,* 29:89-111, 1955.
18. Lehmann, H. E.: Therapeutic Results with Chlorpromazine (Largactil) in Psychiatric Conditions. *Canad. M. A. J.,* 72: 91-99, Jan. 15, 1955.

Phrenotropic Action of Methylphenidylacetate (Ritalin)

VERONICA M. PENNINGTON, M.D.

In our psychiatric hospital housing 4,500 patients, hundreds of patients have been returned to their homes as a result of the use of one or more ataraxics. More hyperkinetic, active, assaultive, noisy patients are represented in this group than any other type, leaving a residue of dull, inert, withdrawn, apathetic, depressed patients. The tranquilizing drugs frequently increase the inertia and lassitude of these patients and in many cases contribute to their retarded mental and physical activity. We therefore looked about for an analeptic to counterbalance the constitutional or drug induced lethargy and psychomotor retardation. Ritalin was the central nervous system stimulant and antidepressant chosen for the investigation.

Methyl - phenidylacetate hydrochloride, tradenamed Ritalin, is readily soluble in water, in ethanol, in methanol and in 10 per cent acetic acid. It is only slightly soluble in chloroform, acetone and other organic solvents.

Meier[1] and his associates found that Ritalin produces central stimulation and coordinated increase in motility in the rat, dog, mouse and rabbit. The central stimulating effect appeared after doses of 0.5 to 1.5 mg./kg. and lasted for several hours. Larger dosage produced ataxic gait and clonic-tonic convulsions. This analeptic showed a marked antagonism to certain depressants, for example diethyl barbituric acid, ethyl phenyl barbituric acid, thiopental sodium, chloral hydrate and urethane. It stimulated the respiration particularly when respiratory center was inhibited by morphine-like substances; it caused a moderate rise in blood pressure and increased heart rate without any marked sympathomimetic effect.

Read at the meeting of the Academy of Psychosomatic Medicine, Hotel Plaza, New York City.

Plummer[2] and his group noted an increase in spontaneous activity of mice for a period of 30 to 45 minutes after the administration of 1 mg./kg. of Ritalin subcutaneously; at 5 mg./kg. the activity was more marked and stimulation prolonged to one hour. One mg./kg. given intravenously to dogs produced restlessness, hyperactivity and jerking movements of the head. Stimulation reached a peak in about 30 minutes and gradually subsided in 1½ to 2 hours.

Toxicity producing hyperexcitability was noted after 10 mg./kg. doses; muscle spasm, hyperpnea and tail erection were produced by 25 mg./kg. Forty to 60 mg./kg. constituted a lethal dose with violent convulsions and death. After daily doses of 5 mg./kg. and 10 mg./kg. of Ritalin given for a period of three months blood studies were normal and all tissues were grossly and histologically unremarkable.

Schneider[3] and associates in electroencephalographic studies found alpha activity in monkeys mixed with slower frequency tracings during the control period. Mechanical or auditory stimulation produced transient fast activity (over 20 per second). Ten minutes after subcutaneous injection of 1 mg./kg. of Ritalin, the tracings began to show prolonged periods of fast activity, with increased physical activity displayed by the monkeys. During the next two hours the fast-activity EEG tracings became more dominant while six hours after Ritalin administration the fast-activity had almost completely disappeared.

I.V. administration of the drug produced the same sort of result, but the excitatory phase appeared much more rapidly and increased physical activity made it difficult to secure good EEG tracings.

Procedure

Dull, inert, untidy, mute, depressed, negativistic and catatonic male and female patients were selected from a large group of psychiatric cases without regard for age or diagnosis, except for a special group chosen because of senile or arteriosclerotic symptoms. The age range was from 15 to 85 years and duration of hospital stay was from 2 months to 52 years. Electroshock therapy and pharmacotherapy had been administered to most and they represented the treatment failures; some had been in their present condition without significant improvement for from several months to many years. Some had drug-induced retardations. Most of them continued to take the phrenotropic drug on which they seemed to do best, even though improvement was not satisfactory, and in those cases Ritalin was used adjunctively; a few were given Ritalin alone.

The initial dosage of Ritalin was 10 mg. daily after breakfast, but soon it was found that this was not sufficiently stimulating and the dosage was raised to two 20 mg. tablets after breakfast and after the noon meal, with adjustment of dosage according to the response of the patient. As with most drugs, titration of individual patient need is the key to successful therapy.

Each patient had a record sheet including a summary of mental and physical condition prior to Ritalin therapy, with daily recording of time and amount of drug administration and the attendant giving it. Blood pressure, pulse rate and rectal temperature were recorded bi-monthly. Each patient able to cooperate recorded subjective effects of the drug, and bi-monthly dictaphone recordings were made of interviews with the patient by the physician and ward attendants most familiar with him. In addition, a psychiatric profile was completed before and after the described period of Ritalin therapy.

The drug was given by mouth, as whole or crushed tablets, to those who would accept it; it was given I.M. to those who refused oral medication. Ritalin was given I.V. in a few instances in order to test the time of onset of action.

Two hundred male and female patients of the types described above were given Ritalin for from one week to twelve months. Thirty patients were given two separate courses of Ritalin with a course of placebo therapy in the interim. One hundred patients received placebo therapy alone, and served as controls. Dosage ranged from 20 mg. to 160 mg. daily in divided doses; 10 patients received 20 mg.; 155 received 40 mg. 27 received 120 mg. and 8 received 160 mg. The aim was to find something that would put positive qualities of vim, vigor and vitality into listless, lethargic, negative-quality in-

dividuals constituting the majority of this patient group. The etiology of the indifference, apathy, retardation and depression was two-fold, constitutional and/or drug induced.

Of the ten patients started on 10 mg. after breakfast and after lunch, only one showed definite improvement; this mute catatonic who had sat in the foetal position for years began to respond when addressed, to move about and to go to the billiard hall and out on the grounds. Finding that this dosage was inadequate in the majority of patients, we increased it to 40 mg. b.i.d., after which the amount was adjusted according to the response of the individual patient. The largest daily dosage, 160 mg., was received by 8 deteriorated, regressed schizophrenics whose psychoses were of many years duration. Of these, three showed a marked improvement in alertness, desire and ability to work, interest in personal appearance and response to their associates.

Patient status was tabulated as follows:

1. Self Care
2. Motor Activity
3. Aggressiveness
4. Eating Habits
5. Toilet Habits
6. Sleep Pattern
7. Social Adaptation
8. Supervision Required
9. Mental Condition
10. Degree of Restoration

Case Histories

Case 1. C.B.: The diagnostic summary made 9-24-48 reveals that during the past 18 years C.B. had received numerous electroshock treatments and 10 insulin coma treatments in private sanitaria. She improved after these treatments but soon reverted to her former extravagance in buying clothing which she would not wear. She preferred seclusion, was self-centered, had auditory hallucinations, thought that radio programs were directed toward her, and had many ideas of reference and persecutory delusions. She felt that she was being followed, that the telephone wires were tapped and dictaphones were in her house.

On our receiving ward she had not adjusted satisfactorily; was demanding and arrogant, would not associate with the other patients and was not cooperative in ward routine. She took no pride in her personal appearance and had many complaints about the way the hospital was managed; during interview she was sarcastic and evasive. She maintained that she was brought to this hospital against her wishes as she was not sick and never had been. She readily admitted auditory, visual and olfactory hallucinations, expressing many ideas of reference and persecution. She maintained that some people were reading her mind and trying to harm her and her family, placed dictaphones in her home and broadcast messages over the radio about her. Insight and judgment were poor. Frequent electroshock treatments were necessary and during these her jaw was repeatedly dislocated in spite of special precautions.

Transfer to a special section of the hospital was required in March 1956 because, despite frequent ECT and treatment with various ataraxic drugs, including chlorpromazine, she continued very resistive, threatening and assaultive and was unable to care for herself or to eat properly.

In May 1956 all other therapy was discontinued and she started upon a combination of chlorpromazine 50 mg. q.i.d. and Ritalin 40 mg. b.i.d. After one week dosages were increased to 100 mg. q.i.d. and 60 mg. b.i.d.; 3 days later Ritalin was further increased to 80 mg. b.i.d. and she was maintained at these levels. Within 8 weeks on this therapy she had improved to a state of apparent normalcy; she ate well without persuasion and gained weight, she took interest in her person and clothing and for the first time since admission eight years before she was smilingly pleasant, agreeable and cooperative. She participated in hospital work and in recreational activities and altogether seemed well adjusted, without further expression of delusional or hallucinatory trends.

At no time did she show significant changes in blood pressure or any other untoward drug effects. After the several visits required to convince her skeptical family of her improvement, she was discharged into their care after eight weeks of the described treatment regime. At the age of 60, after 8 years of continuous hospitalization and 18 years' intermittent hospitalization up to 1948, she is doing well at home on maintenance therapy of Ritalin 80 mg. b.i.d. and chlorpromazine 100 mg. t.i.d.

Case 2 O.C. was admitted to this hospital in 1951, at the age of 42. Her history showed that she had always been "nervous," in poor health following hysterectomy in 1947 and much worse for a year prior to admission. She was in a constant state of depressed anxiety, fearful and preoccupied over her son's being in the Army, but seldom speaking of her husband, who was hospitalized for tuberculosis. She was untidy in her personal habits, refused to go to meals, and was delusional and hallucinated. Despite complete lack of insight, however, she was relevant, oriented and coherent.

She had been treated with various ataraxics without satisfactory improvement; it had been necessary to change from oral medication (because of her resistiveness) to reserpine 2.5 mg. parenterally b.i.d. With the addition of 40 mg. Ritalin daily, there was no significant improvement, but when this was increased to 80 mg. daily she promptly began to show interest in caring for herself and helping other patients. Her depressed and delusional state cleared, she participated in recreational activities and her letters to her son became normal.

Reserpine was continued orally with Ritalin; after about 3 months of this therapy she was discharged.

Reserpine 2.0 mg. b.i.d. and Ritalin 40 mg. b.i.d. has been used for maintenance and she has continued to do very well.

Case 3. V.S. was first admitted to our hospital in 1950 at the age of 31 with a diagnosis of schizophrenia, mixed type. Upon readmission in 1954 she presented a somewhat different picture, leading to a diagnosis of schizophrenic reaction, paranoid type. Upon the third, her current admission, she was mute and almost completely catatonic. Because of the variability of her clinical manifestations, the diagnosis was finally established as schizophrenic reaction, chronic undifferentiated type. Prior to 1950 she had received a B. A. degree, remained single and earned her living as a highly proficient secretary.

When the current project was begun she was delusional and hallucinated, extremely resistive and at times belligerent when coerced. In May 1956 she was started on chlorpromazine 100 mg. q.i.d., after which this was increased to 600 mg. daily plus 400 mg. meprobamate b.i.d. Her response was not satisfactory, and 2 months later Ritalin was added to her treatment in a dosage of 20 mg. b.i.d. Again there was inadequate improvement, and a month later Ritalin was increased to 80 mg. b.i.d. She showed definite improvement within a few days, and two months afterward was able to work full time as a secretary in my office. While she continues to walk slowly, she does not lie about as before, and her secretarial work is quick and accurate; in addition she is socially well adjusted in the hospital regime, keeps well groomed and apparently has no further hallucinations. She states that she feels more relaxed and is sleeping better.

She continues to do well in the hospital, being maintained on Ritalin 80 mg. q.i.d., chlorpromazine 100 mg. q.i.d. and meprobamate 899 mg. t.i.d.

Case 4. M.S. was admitted to our hospital in 1940 at the age of 28. Her history was of marked apathy, in everything following the line of least resistance, plus nocturnal enuresis constantly since the onset of her difficulties. Previously she had completed high school and a business course, with employment as a secretary prior to her marriage.

In previous hospitalization she had repeatedly improved with shock therapy and, more recently, with various ataraxic drugs, going home on numerous trial visits. Her husband and mother have much interest in keeping her at home, but the bedwetting continued and the complete apathy recurred so that she had to be returned to the hospital within a short time after each trial visit.

On 7-22-56 (having been on chlorpromazine 50 mg. q.i.d. for 5 months) she was started on Ritalin 40 mg. b.i.d., but continued to be apathetic and eneuretic, despite the fact that she was relevant, coherent and oriented. Ritalin was increased to 80 mg. b.i.d. and soon afterward she stopped wetting the bed and had become sufficiently active and interested in normal pursuits to go home. After several weeks, with maintenance dosage of Thorazine 50 mg. plus Ritalin 80 mg. b.i.d., she is fairly well adjusted and active at home and the eneuresis has not recurred.

Case 5. M.P. was first admitted in 1944 at the age of 18, having a chronic brain damage syndrome with epilepsy since early childhood. She had completed the tenth grade and attended a business school, but did not get along well with family or other people; she had frequently attacked her mother and others, tried to run away from home and had set many fires. Convulsive seizures were not frequent but continued to recur despite anticonvulsant medication.

Upon shock therapy she improved briefly, required readmission in 1945, improved on ECT and was married in 1946, remaining out of the hospital until 1950. Again she responded to shock therapy and was discharged, returning for the fourth time in 1955, assaultive, often requiring feeding and at times mute. She was given the anticonvulsant primidone 25 mg. q.i.d. plus 20 mg. reserpine daily and improved greatly, becoming cooperative and pleasant, caring for herself, eating well and gaining weight and attending recreational activities. However, at the dosage levels of these drugs producing optimum response in other respects, she was very drowsy and would sleep several hours each day in addition to a full night's sleep, so that Ritalin 40 mg. b.i.d. was added to her regime. This overcame the lethargy and oversedation entirely and she was discharged on this dose of Ritalin plus 10 mg. reserpine and 25 mg. primidone q.i.d. It is to be noted that she has had no convulsive seizures while taking these two drugs in addition to primidone and is still doing well after about 2 months at home.

Case 6. J.D. was hospitalized in 1947 at the age of 21, retarded to the idiot level and unmanageable at home because she was assaultive and a coprophagic soiler. Despite shock therapy and intensive courses of various ataraxic drugs, she continued in the original behavior pattern, requiring almost constant seclusion, until June 1956. At that time she was started on Ritalin 40 mg. b.i.d. (without any other drugs or ECT) and within a few days was no longer coprophagic and did not smear feces. Her hours out of seclusion have increased and she is easier to care for at all times.

Summary of Results

Of the 200 patients in this series, 30 showed no improvement, 76 showed moderate improvement and 40 improved markedly when oral Ritalin in adequate doses was added to the therapeutic regime. In a few cases among the above groups (such as number 6, J.D.) considerable improvement occurred with Ritalin alone.

In the remaining 54 patients of the 200 there were troublesome side effects during the first course of Ritalin therapy. In order of frequency of occurrence these were:

1. Hyperactivity.
2. Noisy, assaultive behavior.
3. Chewing movements of jaws, lips and tongue (also noted in animal studies done elsewhere).
4. Tremor of facial muscles and hands.
5. Oculogyric phenomenon.
6. In one arteriosclerotic patient, increase of blood pressure from 160/90 to 190/100 (after two 20 mg. doses of Ritalin 4 hours apart) plus complaint of severe headache and loud noises in ears.

Among these 54 patients, six showed no therapeutic response to a dosage low enough to avoid the side effects upon re-administration of Ritalin and were taken off the drug. The other 48 are being re-treated at a Ritalin dosage level that does not produce side effects and will be re-evaluated as to therapeutic response after follow-up study.

Some patients who were moderately hypotensive and unable to stand were given 40 mg. Ritalin parenterally, and within 30 minutes showed improvement of blood pressure and restoration of normal ability to maintain the upright position. This time of onset of action confirms the findings of Ayd.[4]

Comments

Improvement following Ritalin therapy ranged from better self-care to restoration to active and substantially normal life outside the hospital. Verbalization was restored and/or normalized, and many patients reported feeling more "alive," "interested" or "normal" than for a long time. Delusional and hallucinatory trends were greatly reduced. Physical and mental lethargy caused by necessarily large doses of various ataraxic or anticonvulsant drugs responded well to Ritalin, as previously reported by Ferguson[5] and Carter[6] and further confirmed by Lazarte and Petersen.[7] The writer has commented on several of these points previously,[8,9] and feels that the findings in the series now being reported reinforce the earlier impressions. Carter[6] also reported no deleterious effect of Ritalin in patients with pre-existing convulsive disease. In cases of chronic brain syndrome associated with senile disease confusion was lessened and alertness increased. In those with chronic brain syndrome associated with cerebral arteriosclerosis, orientation and clarity of thinking improved.

While Ritalin may produce hyperactivity requiring reduction of dosage or discontinuation, usually this can be controlled by reserpine, chlorpromazine or meprobamate, and there is no evidence thus far that it will aggravate pre-existing convulsive disease. This drug rarely produces a significant increase in normotensive or already hypertensive blood pressure, but in an occasional case such as the arteriosclerotic patient cited it may be contraindicated.

SUMMARY OF IMPROVEMENT

Diagnosis	Number of Patients	Greatly Improved	Improved	No Change	Side Effects
Senile	30— 15%	2%	5%	6%	2%
Arteriosclerotic	28— 14%	1%	8%	1%	4%
Schizophrenia, Catatonic	52— 26%	7%	8%	2%	9%
Schizophrenia, Hebephrenic	68— 34%	8%	12%	3%	11%
Schizophrenia, Paranoid	16— 8%	2%	3%	2%	1%
Epileptic	6— 3%	0%	2%	1%	0%
Total	200—100%	20%	38%	15%	27%

Author's Note: The Ritalin and Serpasil used in this research were generously supplied by CIBA Pharmaceutical Products, Inc., Summit, N. J.

BIBLIOGRAPHY

1. Meier, R., Gross, F., and Tripod, J.: *Klin. Wchnschr.*, 32: 445 (May 15) 1954.
2. Plummer, A. J., Barrett, W., and Wagle, G.: Personal Communication.
3. Schneider, J. A., and Holden, T.: Personal Communication.
4. Ayd, F. J., Jr.: Accepted for publication by *J. Clin. Psychopathology.*
5. Ferguson, J. T.: Treatment of Reserpine-Induced Depression with a New Analeptic: Phenidylate. *Annals N. Y. Acad. Sci.*, 61, Article 1, April 15, 1955, 101-107.
6. Carter, C. H.: The Effects of Reserpine and Methyl-Phenidylacetate (Ritalin) in Mental Defectives, Spastics and Epileptics. *A.P.A. Psychiatric Research Reports*, No. 4, 1956, 44-48.
7. Lazarte, J. A., and Petersen, M. D.: Personal Communication.
8. Pennington, V. M.: A Two Year Comparative Study of Ataraxics in Neuropsychiatric Cases, read at the A.P.A. Meeting, Chicago, April 30, 1956.
9. Pennington, V. M.: A Comparative Study of Six Ataraxics in 1136 Neuropsychiatric Cases. *Miss. St. Med. J.*, 336, May 1956.

Subcortical Functions of Tridione and Desoxyn in Mental Illness

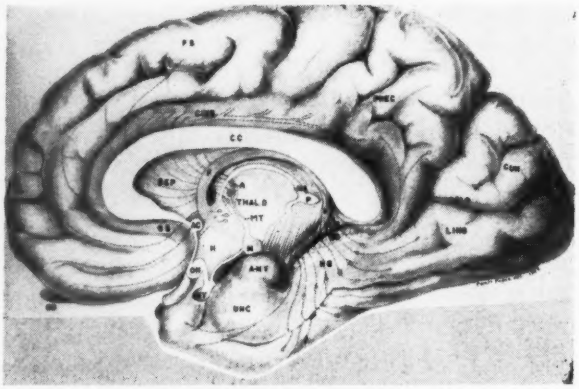
JOHN S. HORAN, M.D.

Pavlov[1] wrote, "It would be natural that experimental investigation of the physiological activities of the hemispheres should be a solid foundation for a future true science of psychology; such a course is more likely to lead to the advancement of this branch of natural science."

One phase of physiological activity of the brain will be discussed in this paper: The "Visceral Brain" (limbic system) and some clinical investigations with anti-convulsant drugs and a stimulant in the treatment of mental illness. Papez[2] suggested that some of the rhinencephalic structures were involved in emotional pathways. He proposed a circuit where incitations of cortical origin would go to the hippocampal gyrus, the hippocampus, the fornix, the mammillary bodies, by the mammillothalamic tract to the anterior nuclei of the thalamus, and thence by the medical thalamocortical radiation to the cortex of the cingular gyrus. The central emotive process of cortical origin would then start in the hippocampal formation, go to the mammillary body, through the anterior thalamic nuclei and to the cingular gyrus. Then the cortex of the cingular gyrus becomes the receptor for the emotive impulses coming from the hypothalamus. Radiation of this from the cingular gyrus would add emotional color to psychic processes. With this circuit emotion would start in either level, from psychic activity above or hypothalamic activity below. The idea was restated by von Bonin,[3] using nerve circuits proposed by McCulloch:[4] From the mammillary bodies in the hypothalamus, impulses follow the circuit back through the cingular gyrus to the limbic sector and hippocampus, making a reverberating circuit capable of sustaining circular activity over long periods and rich with cortical connections.

Along this circuit important physiologic effects have resulted from stimulation.[5,6,7,8,9] Daitz[10] counted the nerve fibers in the human fornix and the Macaque fornix, finding, in man, 2,700,000 fibers in the widest part. The Macaque had only one-fifth the number in man. The hypothalamus controls the autonomic nervous system, reactions such as rage, appetite, sleep and body temperature, along with production of hormones of the anterior and posterior pituitary gland.[11,29,30] The mammillothalamic tract or fasciculus of Vicq d'Azyr[12] leads from the mammillary bodies to the antero-ventral nucleus of the thalamus, and from there most fibers conduct to Brodmann's Area 24 in the cingular gyrus.[13] Area 24 has autonomic, motor, emotional, suppressor, and regulatory effects.[3,14,15,16,17] Maclean[18,19] coined the term "Visceral Brain" (Figure 1) to include the limbic lobe of Broca and the hippocampal

VISCERAL BRAIN



Olfactory parts, hypothalamus, amygdala hippocampus, fornix, mamillary body, path MT to anterior nucleus and cingulate gyrus.

AC Anterior commisure
AMY Amygdala
AC Anterior commisure
AMY Amygdala
CALC Calcarine sulcus
CING Cingulate
CC orpus callosum
CUN Cuneus
F Fornix
FS Frontal superior g.
H Hypothalamus
HA Habenula
HG Hippocampal g.
HIP Hippocampus
IF Interventricular foramen
LING Lingual g.
M Mamillary body
OB Olfactory bulb
ON Optic nerve
P Pineal body
PREC Precuneus
THAL. D Thalamus, dorsal
SEP Septum pellucidum
U Uncus

all mammals, comes to a peak of development in man.[20] Maclean[18,19] suggested that the Visceral Brain is the anatomical basis of the Freudian "id." Similarly, the Visceral Brain may be the anatomic structure subserving the subconscious mind.

This is the working hypothesis: Motor nerve impulses arising in the central nervous system must find an effector pathway. Nerve impulses that surge from the Visceral Brain can be suppressed, but they will continue to travel across synapses and along nerve circuits until their energy is expended. Comparison of nerve circuits with clinical syndromes, such as gastric ulcer following upon repressed hostility, or distortions of appetite following emotional frustration suggests that if a motion cannot be carried out, an emotion or a symptom takes its place. A sudden surge of impulses preparing the individual to strike out against another may be controlled, but the nerve impulses are not abolished and must find another outlet. The motor nerve impulses to drive an attack may be inhibited, but they will find a pathway to make a muscle move (or become spastic), a gland secrete, or an important control center to operate. Or, a reverberating circuit may be set up that will perpetuate itself, sending off impulses repeatedly to one or more centers. Many patients give the impression of being victims of such a vicious cycle. An idea or a compulsion often seems to be repeated at regular time intervals as if a cycle were operating.

Clinical Applications

Clinical work was done at the Cleveland Receiving Hospital, in a patient population consisting mainly of acutely disturbed psychotic individuals. Treatment was based on the idea that two separate brains function in man—the neocortex (conscious) brain and the visceral (subconscious) brain. Impulses arising in the Visceral Brain were considered to be the cause of uncontrolled behavior. Stimulation of hippocampus and fornix produces reactions similar to petit mal and psychomotor seizures in animals and man;[8,22,23,24,25] the treatment used to suppress such attacks should have a general suppressor effect on impulses arising in the Visceral Brain. The first drug used was 3, 5, 5-trimethyloxazolidine-2, 4-dione (Tridione®). Tridione was selected because of its well-known action against petit mal seizures which are generally considered to have a subcortical origin.[22,24] Pharmacological studies of its anticonvulsant properties and its analgesic action have also suggested activity on subcortical structures (Everett and Richards[31]). An injectable form in ampules was available, containing Tridione 1 gram, Urethane 0.75 gram, alcohol 9.5%, with water to make five cubic centimeters. Tridione powder was used to make solutions. On two patients a mixture of diphenylhydantoin and mephobarbital (Mebaroin) was used. With the anti-convulsants, some sedation was noted and patients complained of lethargy. On the theory that suppression of the Visceral Brain was only part of the treatment, and that stimulation of the neocortex might help in the re-establishment of euergasia, some of the patients received a stimulant, d - Desoxy - ephedrine Hydrochloride (Desoxyn) with anti-convulsant. At times Tridione and Desoxyn were given in the same syringe, after the manufacturer (Abbott Laboratories) stated that no incompatibilities should result. In one patient who complained of dizziness from Tridione, Prenderol was used with Desoxyn and good results were obtainde. As a control measure, before each initial injection 5 cubic centimeters of sterile isotonic saline solution was given intravenously and the patient observed for two hours for any reaction.

Table 1 shows the results found in the sixteen patients in the series. Eleven of the patients had excellent remission of symptoms, or clinical recovery. Control injections produced no reaction. Two patients given Tridione intravenously during catatonic states were immediately mobilized, one man ventilating hostile feelings hitherto repressed, one woman sitting up and recognizing the nurse as a former neighbor. One patient developed "glare phenomenon" on Tridione, and Mebaroin was substituted. All patients were followed with blood counts and urinalyses, and no changes were demonstrated in these findings.

Case Reports

Case 1: Mrs. A. W., a 28-year-old white female, entered the hospital with a clear-cut overt homo-

TABLE 1

Patient	Age	Sex	Drug	Diagnosis	Duration of Illness	Result
1. A.W.	28	F	Tridione	Simple Schizophrenia	6 months	Recovery-discharged home
2. A.L.	55	F	Tridione	Involutional Psychosis	2 years	Recovery-discharged home
3. L.F.	55	F	Tridione	Involutional Psychosis	1 year	Recovery-discharged home
4. J.B.	25	M	Tridione	Catatonic Stupor	2 weeks	Immediate awakening
5. L.H.	53	F	Tridione	Involutional Psychosis	1 year	Recovery-discharged home
6. R.F.	55	F	Tridione	Manic-Depressive Manic	30 years	Clinical recovery
7. I.P.	38	F	Tridione	Paranoid Schizophrenia	1 year	Stopped hearing voices
8. B.H.	42	M	Mebaroin	Alcoholic, Periodic	15 years	Recovery-discharged home
9. A.S.	35	F	Tridione	Catatonic Stupor	3 months	Immediate awakening
10. V.A.	37	F	Tridione	Barbiturate Addict	17 years	Recovery-discharged home*
11. M.S.	28	F	Tridione	Paranoid Schizophrenia	7 years	Uncertain
12. S.L.	37	F	Tridione	Psychosis, mental deficiency	years	4 hours relief only
13. L.R.	62	M	Tridione	Manic Reaction	1 year	Clinical recovery
14. M.D.	42	M	Tridione+ Desoxyn	Musculo-skeletal Reaction	3 years	Clinical recovery
15. C.W.	57	M	Tridione	Cardiac Psychosis, Terminal	6 months	Failure (expired 1 week later)
16. J.B.	57	M	Tridione+ Mebaroin	Morphine Addict	years	Failure

*Indicates developmpent of "glare effect."

sexual conflict. She had many somatic complaints that were close to the delusional level. She felt "torn apart," she believed her pelvic organs were bleeding and dissolving, and had many bowel complaints. A very thorough physical and laboratory examination schedule was carried out, with negative findings. She had attacks of weeping in which she complained of simultaneous headache and splitting sensations in her pelvis. At her own request she was given three electroconvulsive treatments, which only intensified the anxiety and the other symptoms. In conference a diagnosis of simple schizophrenia was made. During her next attack, after a control injection, she was given one gram of Tridione intravenously, and before the injection was finished, she said, "Oh, I feel better. My head is clear now, and I'm relaxed." All symptoms disappeared. She was placed on Tridione 0.3 gram twice daily by mouth, and discharged home, to be followed by her family physician. She became pregnant for the second time about a month after her discharge from the hospital. During the second trimester of pregnancy she began experiencing a mild recurrence of symptoms, and was seen six times on an out-patient basis. On each of these visits she was given a mixture of Tridione and Desoxyn intravenously, with relief, and with ventilation of the feelings of divided loyalty between her husband and her girl friend. She again made a good recovery, carried through pregnancy and delivery, and is now concentrating on being a homemaker for her husband and two children. She has been out of the hospital a little over a year at the time of this report.

Case 5: Mrs. L. H., a 53-year-old white female, entered the hospital for treatment of an involutional psychosis with depression lifted. One month after the last treatment, she complained that the food was poisoned, that her body was full of ground glass, that she was ready to die, but she wanted me to protect the rest of the ladies in the ward. A day following, a control injection of sterile isotonic saline solution was given, with no results. The next day, she was given Tridione intravenously; during the injection she made a dramatic death-bed speech, interrupted with, "I must have been sick, but I feel better now. My head is clearer." She was watched carefully for the next hour, and showed no symptoms. Asked tactfully how the food was, she said, "It's not bad for a hospital—I can't complain." Two days later she told me her body was rotting, and another intravenous injection of Tridione was given. She continued well for one month and was discharged. For ten months she has been working as a stenographer and bookkeeper.

Case : Mrs. R. F., a 55-year-old white female, has been intermittently in hospitals for thirty years, with a diagnosis of manic-depressive psychosis, manic type. When her attacks started, electric treatments always lowered the mood, but she was like a caged animal, pacing the floors, never socializing, and never speaking. She was sent home, but was returned because of overactivity. Instead of electric treatments, she was given Tridione 0.3 gram twice daily. She became placid and stopped her floor-pacing. Relatives complained that she seemed "dopey," so in addition to Tridione, she was given Desoxyn 5 milligrams twice daily. With this combination, she became alert, pleasant, sociable, and attained a clinical recovery. Because the sister's husband had threatened divorce if the patient ever came into the home again, discharge was not possible.

Case 2: Mrs. A. L., a 55-year-old white female, had been suffering for two years with an involutional psychosis characterized by feelings of inability to function, great anxiety, agitation, and nail biting. Electroconvulsive treatments gave no re-

lief. Permanent hospitalization was advised. Experimentally, during one of her attacks of agitation, she was given a mixture of Tridione and Desoxyn intravenously. She went to sleep after the injection, and the next day was more calm and relaxed than she had been for two years. She was placed on Tridione 0.3 gram twice daily and Desoxyn 5 milligrams twice daily, discharged to the care of her family physician, and has been doing well for ten months at home.

Case 10: Mrs. V. A., a 37-year-old white female, suffered a head injury at the age of 20, and began drinking heavily. After eleven years of alcoholism, she changed to barbiturates and took them daily for six years. When the man who had been supplying her with barbiturates died, she presented herself at the hospital complaining of insomnia, restlessness, many somatic complaints and inability to take anything by mouth without vomiting. Intravenous feedings were required for the first three days, after which an electroencephalogram was done, with normal tracings. For the withdrawal symptoms, she was given twenty electroconvulsive treatments. She was much improved, but still complained of insomnia, tremor, irritability, and tension. To add to her troubles, her husband filed for divorce. She was given Tridione 0.3 gram twice daily, with complete relief of symptoms. She became relaxed and said that she felt better than at any time since the head injury. A "glare" effect developed, so Mebaroin was substituted for Tridione. She improved so much that her husband dropped the divorce and took her home, where she has remained with him and the two children for ten months since her discharge from the hospital.

Although from this small series no final conclusions can be drawn, the results are sufficiently dramatic and clear cut to warrant further study. The combination of anticonvulsant and stimulant, Tridione and Desoxyn, not only brings about a quiescent state in many patients, but also increases receptivity to psychotherapy. Even more significant is the fact that most of the patients in this series had electroconvulsive treatments with partial or no relief, and that electroencephalograms showed little in the way of abnormalities. Along other lines, results are also promising, especially in electrophysiological studies in conjunction with neurosurgery.[25,26,27,28]

Summary

Recent work in neurophysiology is reviewed, with reference to the Papez circuit and the "Visceral Brain" which is proposed as the anatomical substratum of the subconscious mind. Correlation of clinical syndromes with the effects obtained by stimulating centers along the Papez circuit in the hippocampal formation, fornix, hypothalamus, and cingular gyrus is offered.

Clinical work with Tridione and Desoxyn is reported in a series of 16 patients. Dramatic recoveries and improvements have occurred in 11 of these severely ill psychotic patients.

As a working hypothesis, it is assumed that all motor nerve impulses arising in the central nervous system must find some effector pathway. If the original intention is repressed, a pathway is found to make a muscle move, a gland secrete, or a control center to function.

Anatomical divisions and physiological responses in the central nervous system suggest that man has two brains working antagonistically and synergistically; one the neocortex, the other the visceral brain, composed of limbic lobe with its cingular gyrus, Island of Reil, Claustrum, basal ganglia, amygdala, hypothalamus, and hippocampal formation.

Author's Note: The illustration of the Visceral Brain was drawn by Pearl Papez and furnished by Dr. James W. Papez, Columbus, Ohio.

Tridione and Desoxyn are manufactured by Abbott Laboratories, North Chicago, Ill. Mebaroin is manufactured by Winthrop-Stearns, Inc.

BIBLIOGRAPHY

1. Pavlov, I. P.: Conditional Reflexes. *Oxford University Press:* Humphrey Milford 1927. (Trans. & edited by Anrep, G. V.)
2. Papez, J. W.: A Proposed Mechanism of Emotion. *Arch. Neurol. & Psychiat.*, 38: 735-743, 1937.
3. Von Bonin, Gerhardt: Essay on the Cerebral Cortex. Springfield, Ill. *Charles C. Thomas,* 1950 (150 pp.).
4. McCulloch, W. S., and Pitts, W.: A Logical Calculus of the Ideas Imminent in Nervous Activity. *Bull. Math. Biophysics,* 5: 115-137, 1944.
5. Brodal, A.: The Hippocampus. *Brain,* 70: 179-222, 1947.
6. Lorente de No, R.: Studies on the Structure of the Cerebral Cortex. *J. Psychol. Neurol.* Lpz., 45: 381-438, 1934.
7. Green, J. D., and Shimamoto, T.: Hippocampal Seizures and Their Propagation. *Arch. Neurol. & Psychiat.*, 70: 687-702, 1953.
8. Morin, F., and Green, J. D.: Diffuse Afterdischarges Folowing Stimullation of the Fimbria Hippocampi. *Am. J. Physiol.,* 175: 251-257 (Nov.) 1953.
9. Yakovlev, P. I.: Patterns of Neuronal Assem-

blies and the Anatomical Substratum of Seizures. *Epilepsia,* 1: 51-68 (Nov.) 1952.
10. Daitz, H.: Note on the Fibre Content of the Fornix System in Man. *Brain,* 76: 509-512, 1953.
11. Haymaker, W.: Metabolic Aspects of Hypothalamic Function. Lecture, Washington, D.C., April 26, 1954.
12. Vicq d'Azyr, F.: Traite d'anatomie et de physiologie. Paris, *F. A. Didot,* 1786. 111 pp.
13. Meyer, A., Beck, E., and McLardy, T.: Prefrontal Leucotomy: A Neuro-Anatomical Report. *Brain,* 70: 18-49, 1947.
14. Smith, W. K.: Vocalization and Other Responses Elicited by Excitation of the Regio Cingularis in the Monkey. *Am. J. Physiol.,* 133: 451-452, 1941.
15. Ward, A. A.: The Cingular Gyrus: Area 24. *J. Neurophysiol.,* 11: 13-23, 1948.
16. Kremer, W. F.: Autonomic and Somatic Reactions Produced by Stimulation of the Cingular Gyrus in Dogs. *J. Neurophysiol.,* 10: 371-379, 1947.
17. Sloan, N., and Kaada, B. R.: Effects of Anterior Limbic Stimulation on Somato-Motor and Electrocortical Activity. *J. Neurophysiol.,* 16: 203-220 (May) 1953.
18. Maclean, P. D.: Psychosomatic Disease and the "Visceral Brain." *Psychosom. Med.,* 11: 338, 1949.
19. Maclean, P. D.: The Limbic System and its Hippocampal Formation. *J. Neurosurg.,* 11: 29-44 (Jan.) 1954.
20. Kappers, C. U., Huber, G. C., and Crosby, E. C.: The Comparative Anatomy of the Nervous Systme of Vertebrates, Including Man. New York, *The Macmillan Co.,* 1936, 2 vols.
21. Yakovlev, P. J.: Motility, Behavior, and the Brain. *J. Nerv. Ment. Dis.,* 107: 313-335, 1948.
22. Kaada, B. R.: Somato-Motor, Autonomic, and Electrocorticographic Responses to Elcetrical Stimulation of Rhinencephalic and Other Structures in Primates, Cat, and Dog. *Acta Physiologica Scandinavica* (Supplement 83), 24: 1-281, 1951.
23. Green, J. D., and Shimamoto, T.: Hippocampal Seizures and Their Propagation. *Arch. Neurol. & Psychiat.,* 70: 687-702 (Dec.) 1953.
24. Kaada, B. R., and Jasper, H.: Respiratory Responses to Stimulation of Temporal Pole, Insula, and Hippocampal and Limbic Gyri in Man. *Arch. Neurol. & Psychiat.,* 68: 609-619, 1952.
25. Penfield, W., and Jasper, H.: Epilepsy and the Functional Anatomy of the Human Brain. Boston, *Little, Brown, and Company,* 1954 (896 pp.).
26. Pool, J. L.: The Visceral Brain of Man. *J. Neurosurg.,* 11: 45-63 (Jan.) 1954.
27. LeBeau, J.: Anterior Cingulectomy in Man. *J. Neurosurg.,* 11: 268-276 (May) 1954.
28. Meyer, A., and Beck, E.: Neuropathological Problems Arising from Prefrontal Leucotomy. *J. Ment. Sci.,* 91: 411-425, 1945.
29. Gomori, G.: Observations on Differential Stains on Human Islets of Langerhans. *Am. J. Path.,* 17: 395-406, 1941.
30. Bargmann, W., Hild, Ortmann, R., and Schlieber, T. H.: Morphologische und experimentelle Untersuchungen über das hypothalamisch-hypophysare System. *Acta neurovegetativa,* 1: 233, 1950.
31. Everett, G. M., and Richards, R. K.: Analgesic and Anticonvulsive Properties of 3, 5-5-Trimethyloxazolidine-2, 4-dione (Tridione). *Federation Proc.,* 3: 39 (March) 1944.

4418 Vineland Ave., No. Hollywood, Cal.

Book Reviews

THE EPILEPTIC SEIZURE: Cosimo Ajmone-Marsan, M.D., and Bruce L. Ralston, M.D., Department of Health, Education and Welfare, Bethesda, Maryland. Cloth. Pp. 251. $6.00. Charles C. Thomas, 301 East Lawrence Avenue, Springfield, Ill., 1957.

The book details the signs as well as the pattern of the seizure itself and hypothesizes the character of spread and propagation of epileptic discharges as they involve related temporal regions. There is a clarity of description between pre- and post-seizure events, and their electro-clinical correlations respecting EEG changes during these phases. The book presents added evidence to illustrate that in left sided seizures, aphasia, which is usually predominant following automatism, is a clinical indication that cortical discharge has actively invaded the middle and posterior temporal region.

The authors, in further observations, indicate that psychomotor epilepsy is perhaps the most frequent of all clinical forms of seizures and direct attention to the fact that the great majority of such seizure types are fortified by EEG evidence of temporal involvement.

The authors are frank and not unmindful of the problem which encephalography poses in a certain percentage of epilepsies, when they say that in the latter situations, even after repeated records obtained on and off medication with hyperventilation and sleep, such cases will fail to provide definite evidence of the epileptic process even though known to exist on the basis of clinical criteria.

The book is well documented, and points out in clear language, the totality of events during the induction of an epileptogenic process via Metrazol activation, as to both clinical and electrographic aspects and emphasizes the advantage of this method of examination for the interpretation of spontaneously occurring attacks.

The book may be used with profit by clinical investigators in the spheres of neurophysiology and by those workers whose particular interests are directed in the areas of epilepsy.

Lewis J. Siegal, M.D., LL.B.

BATTLE FOR THE MIND. William Sargant. A Physiology of Conversion and Brainwashing. Doubleday and Company, Inc., Garden City, New York, 1957.

This is a most lucid, mature and objective book. It is also original, exciting and important.

It is technically sound enough to be challenging reading to the psychiatrist and the physician, and broad enough, encompassing a great variety of human relations, to be of absorbing interest to the layman.

Dr. Sargant studied the way in which religious conversion, psychiatric therapy, including psychoanalysis, and political brainwashing proceed, and finds that there is a physiological principle of action common to all three, independent of the psychological contents or psychological theories, truth or value, or the lack thereof which they may possess.

The scientific physiologic principle which makes them all work when effectively administered are the paradoxical and ultraparadoxical phases of brain activity resulting from strong emotional excitement, whether it be due to fear, anxiety, guilt or anger which reverses well implanted conditional responses (including no doubt Freud's super-ego responses) and long held religious and political convictions, and lays the individual open to strong suggestion, whether it be those of a priest or prophet, a voodoo conjurer, a psychiatrist, psychoanalyst, police interrogator, or a political brainwasher.

This relationship of suggestibility is sometimes mutual, such as is exemplified when a psychoanalyst suggests to a patient what to dream and what to remember from childhood, and then takes these dreams and memories as confirmations of his theory; or when a benevolent police interrogator suggests to the prisoner what to confess and then believes the confession, such as happened in the famous Evans case in recent British legal history.

He quotes in this connection a patient who had Freudian dreams when undergoing a Freudian analysis and Jungian dreams when undergoing a Jungian analysis, and the cases reported by Jones who had been astonished to find that Freud had believed items in patients' histories that Jones, who had referred these patients, knew were untrue.

Sargant also finds that the bond developing between psychoanalyst and patient which Freud believed to be characteristic of the psychoanalytic situation (belief in the transference is incorporated in the psychoanalytic credo) is actually an effect conditinoed by the strong emotional charge of the subject matter brought up and also takes place in the basically hostile setting of the prisoner and his interrogator as well as between the dog and the experimenter who may place the dog under quite harrassing stress in the conditioning chamber.

Only those can resist who can manage to remain emotionally unaroused, even when talking about their sins to the preacher, or recounting their past life to the psychoanalyst, or explaining their conduct to the police interrogator. Even anger aroused by the interrogator of the secret police will not protect the prisoner from breaking down and confessing, but will on the contrary, pave the way for it. Only icy detachment and parsimony of communication will protect from brainwashing. Sargant cites the successful case of an officer who kept his mind objectively occupied throughout his imprisonment by trying to remember every item of furniture in every dwelling he ever lived in. Heroism or resistance will not protect from brainwashing without such devices, although strong conviction and enthusiasm for a cause will protect, such as exemplified by Jehovah's witnesses in German concentration camps.

The ordinary citizen, however, no matter how confident, vigorous or conservatively conforming, especially the latter, will be wide open to brainwashing. For him the Army's traditional prohibition of any communication to the enemy except for name, rank and serial number is the best protection.

For the civilian under suspicion of a civil crime, in order to protect himself from making false damaging admissions in response to suggestion which cost the late Mr. Evans his life, Sargant recommends the statement that the prisoner is willing to answer all questions provided they are put to him through his attorney in writing; a procedure perfectly within the prisoner's rights under Anglo-Saxon law.

It is refreshing in this day and age, when so much mysticism and attribution of panacea-like qualities are injected into such concepts as brainwashing, psychoanalysis and other apparent deep mysteries easily explainable by the suggestibility of the human being, to find such a lucid and informative book as this appearing on the scene. It will be recalled from John DosPassos' recent book that when the miracles of Mesmerism were first announced and discussed before the Philadelphia Philosophical Society by no less a person than Lafayette, that Benjamin Franklin and the Society remained unimpressed. Charles Thomson wrote Jefferson in Paris that "the Marquis was quite an enthusiast." He added dryly that Mesmerims had brought to light only one important discovery "namely to what degree imagination could operate on the human frame."

Sargant has vividly pointed out that imagination and suggestibility are indeed great but can be further enhanced beyond their usual reaches by emotional excitement, exhaustion, confusion and debilitation, either singly or in combination, and that this physiological factor is crucial.

The principle can be utilized to help the mental patient by psychotherapy, psychoanalysis or shock therapy; it can be used for the common good to spread religious doctrine, but it can also be used to spread false political gospel.

Leo Alexander, M.D.

SANITARIA DIRECTORY

The institutions listed below are among the finest private sanitaria in the United States. They offer private, individual specialized care to the patient.

BALDPATE, INC.
Georgetown, Massachusetts

BEVERLY HILLS CLINIC AND SANITARIUM
Dallas 11, Texas

ELMLAWN (The Wilgus Sanitarium)
Rockford, Illinois

FAIR OAKS
Summit, New Jersey

FAIRVIEW SANITARIUM
Chicago, Illinois

FOREST SANITARIUM
Des Plaines, Illinois

GLENSIDE
Boston 30, Massachusetts

HALL-BROOKE
Greens Farms, Conn.

HILLCREST HOSPITAL
(formerly The Retreat, Inc.)
Des Moines 12, Iowa

PINEWOOD
Katonah, New York

RING SANATORIUM
Arlington, Massachusetts

ROGERS MEMORIAL HOSPITAL
Oconomowoc, Wisconsin

ST. CLAIR HOSPITAL
Detroit 14, Michigan

ST. JOSEPH SANITARIUM
Dubuque, Iowa

Saint Joseph Sanitarium

(Supervision of Sisters of Mercy)

P. O. BOX 236 — DUBUQUE, IOWA

or phone 3-8291 for information

Mild Mental and Nervous Cases
also
Convalescent and Rest Patients

Shock Therapy, Hydrotherapy, Physiotherapy, Occupational Therapy.
Competent Staff.

Diseases of the Nervous System

INDEX 1957 — Volume XVIII

ARTERIOLAR MYCOSIS WITH DEGENERATIVE BRAIN DISEASE ..... April 127
James W. Papez and B. Pearl Papez
ATARACTICS IN MENTAL DEFICIENCY ..... August 314
Eastern Psychiatric Association
BIOCCIPITAL SPIKE SEIZURE FOCI—PSYCHOMETRIC CONCOMITANT ..... January 7
Alice Calvert Roberts
BRAIN TISSUE REACTIVITY TO INTRACRANIAL AND EXTERNAL EST ..... November 425
Juan Negrin, Jr.
BRIEF PSYCHOTHERAPY WITH NON-PSYCHOTIC PATIENT ..... February 67
Carl A. Whitaker
CARBON DIOXIDE AND NICOTINIC ACID FOR INSULIN COMA ..... April 138
Myron Feld, Paul Freeman and F. V. Hoffman
CARBONIC ANHYDRASE ACTIVITY OF CNS ..... June 226
Winifred Ashby, Maurice A. Bushrod and Ernest M. Schuster
CHLORPROMAZINE: A CONTROLLED STUDY WITH DISTURBED PATIENTS ..... January 16
M. D. Sommerness, J. Lucero, J. S. Hamlon and A. M. Mahowald
CHLORPROMAZINE TREATMENT WITH REFERENCE TO DEPRESSION ..... January 35
Herman C. B. Denber
CHLORPROMAZINE AND RESERPINE IN TREATMENT OF SCHIZOPHRENICS ..... March 100
W. Tuteur, R. Stiller and O. Whitehill
CHLORPROMAZINE IN CHRONIC MENTAL ILLNESS ..... July 259
Maurice Klotz and Harlow B. Thompson
CHLORPROMAZINE IN NON-THROMBOCYTOPENIC PURPURA ..... August 307
Robie T. Childers, Jr.
CHLORPROMAZINE AND RAUWOLFIA PREPARATIONS IN DEPRESSIONS ..... October 390
Lawrence H. Gahagan
COMPAZINE IN EMOTIONAL DISTURBANCES ..... November 430
Louis G. McAfoos, Jr.
CYTOPATHOLOGY OF ERYTHROCYTES OF SCHIZOPHRENICS ..... November 444
H. R. Ansley, W. H. Sheldon, A. M. Tenney and R. D. Elderkin
DIAMOX ACETAZOLAMIDE IN TREATMENT OF EPILEPSY ..... March 110
T. Wada, T. Sato and S. Morita
DIMETHYLANE IN TREATMENT OF ANXIETY REACTIONS ..... November 434
James M. A. Weiss, Thomas T. Flynn and Robert M. Counts
DYNAMIC PSYCHOLOGIC AND SOMATIC TREATMENT ..... February 49
Oskar Diethelm
EGG SURVEY OF PSYCHIATRIC POPULATION ..... June 216
Ben Rothfeld
ELECTROSHOCK THERAPY—PROPHYLACTIC TO PREVENT RECURRENCE ..... May 189
Edward F. Kerman
ELECTROSHOCK THERAPY WITHOUT MUSCLE RELAXANTS ..... November 439
J. M. Radzinski
EMOTIONAL CONVICTIONS OF THE ANALYST ..... December 463
James Clark Moloney
FUNKENSTEIN TEST IN PREDICTING PSYCHOSURGERY ..... April 134
J. Dennis Freund and Rudolf Dreikurs
GROUP PSYCHOTHERAPY ON A LOCKED SERVICE ..... February 63
Julius Laffal and Irwin G. Sarason
GROUP PSYCHOTHERAPY—TEAM APPROACH ..... March 95
J. W. Klapman and Ruth E. Meyer
GROUP PSYCHOTHERAPY IN A GENERAL HOSPITAL ..... October 379
Samuel B. Hadden
HI-FI ADDICT—PSYCHOPATHOLOGY ..... June 232
H. Angus Bowes
HISTORICAL CONSIDERATIONS IN PSYCHIATRY ..... October 397
Ernest Harms
HUMORAL AROUSAL RESPONSES IN MENTAL DISEASE ..... July 272
William P. Wilson and Joseph B. Parker
HYALURONIDASE IN INSULIN COMA ..... May 194
Russell A. Pargiter
HYPNOSIS IN EVERYDAY LIFE ..... December 468
Galina Solovey de Milechnin
IDENTIFICATIONS AND THEIR MOTIVATIONS ..... January 20
T. A. Watters
JOINT TREATMENT OF ADOLESCENT AND MOTHER ..... June 220
John D. Patton
LOBOTOMY OPERATIONS, RESULTS OF ..... August 294
G. D. Niswander, W. E. Cummings, K. B. Oakey and E. K. Holt
MEDICOLEGAL ASPECTS OF DOCTOR-PATIENT RELATIONSHIP ..... January 23
Lewis J. Siegal
MENTAL HEALTH TRAINING AND RESEARCH IN FLORIDA ..... April 148
Sullivan G. Bedell
MENTAL HYGIENE BEGINS AT HOME ..... August 308
E. E. Mueller, M. F. Pimental and J. Meiers
MILTOWN IN TREATMENT OF HOSPITALIZED SCHIZOPHRENICS ..... September 346
Dean M. Laird, Jean N. Angelo and Justin M. Hope

MODIFIED EST—THERAPEUTIC-TEAM APPROACH ..... October 383
H. E. Andren and D. R. Dick
MULTIPLE SCLEROSIS—GALACTOSE TREATMENT ..... July 255
Jank Hartstein and George A. Ulett
NEUROLOGIC EXAMINATION IN INSTITUTIONS FOR MENTALLY ILL ..... March 87
Victor E. Gonda
NEUROLOGICAL AGENTS IN CHILD PSYCHIATRY ..... February 72
Sol. Nichtern
OLD AGE MENTAL ILLNESS ..... October 375
Warren S. Williams and E. Gartly Jaco
PARKINSONISM, SCHIZOPHRENIA AND ATARACTIC DRUGS ..... December 474
Walter Kruse
PERIPHERAL ELECTRICAL STIMULATION ..... September 342
Charles H. Jones and James G. Shanklin
PERIPHERAL NEUROPATHY WITH MULTIPLE MYELOMATOSIS ..... November 419
W. Dumas, E. H. Rentschler and K. M. Earle
PERSONALITY OF THE OBESE—PSYCHOANALYTIC ASPECTS ..... May 196
Edmund Bergler
PHARMACOLOGICAL AGENTS IN HIGHER NERVOUS ACTIVITY ..... September 339
W. Horsley Gantt
PHENERGAN IN TREATMENT OF PSYCHIATRIC PATIENTS ..... May 183
Arthur S. Samuels
PHRENOTROPIC ACTION OF METHYLPHENIDYLACETATE (RITALIN) ..... December 477
Veronica M. Pennington
PHYSICIAN IN ROLE OF PSYCHOTHERAPIST ..... July 249
Eugene Ziskind
PHYSIODYNAMIC TREATMENTS OVER A TEN YEAR PERIOD ..... February 55
Isidor W. Scherer and Arnold Trehub
PROCEDURES IN PSYCHIATRY ..... October 387
Jackson A. Smith and Cecil D. Wittson
PSYCHIATRY OF POOR READERS, CONSTITUTIONAL ASPECTS ..... August 289
William C. Barger, Ruth Lavin and Frederick E. Spaight
PSYCHIATRIC EDUCATION—CURRENT TRENDS ..... September 329
Floy Jack Moore
PSYCHIATRIC PROGRAM FOR INDUSTRY ..... June 223
Richard C. Proctor
PSYCHIATRIC SERVICES IN A PEDIATRIC HOSPITAL ..... August 296
A. H. Chapman, L. Pilkey and M. J. Gibbons
PSYCHIATRIC-SOCIAL WORK COLLABORATION ..... May 169
Max Siporin and Benjamin Boshes
PSYCHOANALYSIS AND PSYCHOTHERAPY—EVOLUTION ..... March 105
Marion B. Richmond
PSYCHOLOGY OF THE SNOB ..... September 352
Edmund Bergler
PSYCHO-MEDICAL THERAPY OF PSYCHOSOMATIC DISORDERS ..... May 176
Harold Kaplin
PSYCHOMETRIC CONCOMITANT OF BIOCCIPITAL SPIKE SEIZURE FOCI ..... January 7
Alice Calvert Roberts
PSYCHOPATHIC TRAITS ARE INHERITABLE ..... February 52
P. R. Newkirk
PSYCHOTHERAPY WITH ATARAXIC DRUGS ..... September 334
Stanley Lesse
QUIACTIN: AN ADJUNCT IN TREATMENT OF CHRONIC PSYCHOSES ..... January 29
Charles D. Feuss and Logan Gragg, Jr.
QUIACTIN IN EMOTIONAL AND MENTAL DISORDERS ..... May 191
Edwin A. Coats and Richard W. Gray
RESERPINE, CHLORPROMAZINE AND COMBINATION—BEHAVIORAL EFFECT ..... June 209
W. W. Barrett, R. B. Ellsworth, L. D. Clark and J. Ennis
RITALIN, PARENTERAL USE ..... April 146
C. H. Carter and M. C. Maley
SEDAC THERAPY ..... April 150
Eastern Psychiatric Research Association
SERPASIL IN TREATMENT OF MENTALLY ILL EPILEPTICS ..... July 275
Clyde Brooks
SLEEP PARALYSIS, A NEW EVALUATION ..... April 144
Jerome M. Schneck
SUBCONVULSIVE ELECTROTHERAPY IN MENTAL DISORDERS ..... July 271
David M. Olkon
SUBCORTICAL FUNCTIONS OF TRIDIONE & DESOXYN IN MENTAL ILLNESS ..... December 482
John S. Horan
SUCCINYLCHOLINE TECHNIC—NEW ..... January 34
David J. Impastato and Anthony R. Gabriel
SYMPTOMATIC CHANGES IN PSYCHIATRIC PATIENTS—MEASUREMENT ..... February 58
F. R. Hine, B. M. Bass, J. G. Dawson, C. R. Wurster and D. A. Dobbins
TRANSORBITAL LOBOTOMY—EVALUATION WITH CONTROL GROUP ..... July 263
Sam A. Hoerster, Jr., and E. Gartly Jaco
TRILAFON, EFFECT ON CRUDE CONSCIOUSNESS ..... August 300
N. L. Mason-Browne and J. W. Borthwick
TRILAFON—TREATMENT OF PSYCHIATRIC PATIENTS WITH ..... October 394
Frank J. Ayd, Jr.

Founded 1879

RING SANATORIUM

Eight Miles from Boston

For the study, care, and treatment of emotional, mental, personality, and habit disorders. On a foundation of dynamic psychotherapy all other recognized therapies are used as indicated. Cottage accommodations meet varied individual needs. Limited facilities for the continued care of progressive disorders requiring medical, psychiatric, or neurological supervision.

Fully Accredited by the APA and the Joint Commission on Accreditation of Hospitals

BENJAMIN SIMON, M.D.
Director

CHARLES E. WHITE, M.D.
Assistant Director

ARLINGTON HEIGHTS, MASSACHUSETTS - MIssion 8-0081

A NEUROPSYCHIATRIC FOUNDATION
THE

ROGERS MEMORIAL HOSPITAL

The Hospital is situated on the Nashotah Lakes, 30 miles west of Milwaukee, providing the ideal, restful country environment and the facilities for the modern methods of therapy of psychoneuroses, psychosomatic disorders, alcoholism, and the other neurologic and psychiatric problems. Occupational therapy and recreational activities directed by trained personnel.

OCONOMOWOC, WISCONSIN
PHONE LOGAN 7-5535

OWEN OTTO, M.D.
Medical Director

EUGENE FRANK, M.D.
LOUIS J. PTACEK, M.D.
LOREN J. DRISCOLL, M.D.

LEROY A. WAUCK, PH.D.
Clinical Psychologist

FAIR OAKS

INCORPORATED

SUMMIT, NEW JERSEY

A fully approved Hospital for intensive treatment and management of problems in Neuropsychiatry.

OSCAR ROZETT, M.D.
Medical Director

THOMAS P. PROUT, JR.
Administrator

BEVERLY HILLS CLINIC and SANITARIUM

210 N. Westmoreland Avenue **WHitehall 3-4651**
Dallas 11, Texas

A private clinic and hospital for nervous and mental diseases both for in-patients and out-patients—stressing a homelike environment with separate building units and special cottages—air-conditioned.
A complete neuropsychiatric diagnostic and treatment center including a department of psychology—encephalography—clinical laboratory and X-ray—psychotherapy—electroshock and insulin coma therapy, as well as psycho-surgery. A new geriatric unit has just been added.

Arthur J. Schwenkenberg, M.D.

JOSEPH L. KNAPP, M.D.
JACKSON H. SPEEGLE, M.D.
Neurology

HENRY P. HARE, JR., M.D.
Psychiatry

GLENSIDE HOSPITAL

FOUNDED 1909

Located in an attractive rural setting in the heart of Boston for the care of nervous, mental and geriatric disorders, alcoholism and drug addiction.

The new Ordway Therapy Unit includes the most modern electrotherapy equipment. Anesthesia by the Hand-Auden Associates and trained personnel available to courtesy staff.

DORIS M. HORWOOD, *Superintendent*

RUTH M. CROSSFIELD, M.D., *Medical Director*

6 PARLEY VALE, JAMAICA PLAIN, MASS.

JAMAICA 4-0044 RATES MINIMAL

---

50 BEDS

HILLCREST HOSPITAL

EST. 1905

(formerly The Retreat, Inc.)
DES MOINES 12, IOWA

For the diagnosis and treatment of Nervous and Mental Disorders in a homelike environment.

Occupational Therapy, Physiotherapy and Shock Therapy
Open Psychiatric Staff

HERBERT C. MERILLAT, M.D., *Medical Director* HERBERT W. VETTER, *Administrator*

PINEWOOD

Dr. Joseph Epstein
Dr. Louis Wender
Physicians in Charge

DR. WALTER A. THOMPSON, F.A.P.A., Clinical Director

Westchester County **Katonah, N. Y.** **Tel.: Central 2-3155**

A competent sixty bed psychiatric hospital offering an approved program for training residents in neuropsychiatry. Psychoanalytically oriented. Patients receive individual treatment sessions and also group therapy. Electroshock therapy and its modifications available. Pharmacological therapies. Consulting staff of specialists. Monthly clinical conferences open to the profession.

N. Y. City Offices—By Appointment

DR. EPSTEIN—975 Park Ave.—Tues., Thurs., Sat. RH 4-3700
DR. WENDER—59 East 79th St.—Mon., Wed., Fri. BU 8-0580

SEDATION AND EUPHORIA FOR NERVOUS, IRRITABLE PATIENTS

Use **VALERIANETS-DISPERT** Reg. U S Pat Off

Each Chocolate Coated Tablet Contains Ext. Valerian (highly concentrated) 0.05 Gm. dispergentized finely subdivided for maximum efficiency

TASTELESS, ODORLESS, NON-DEPRESSANT SEDATIVE and EUPHORIC

VALERIANETS-DISPERT are indicated in cases of nervous excitement and exhaustion, anxiety and depressive states, cardiac and gastrointestinal neuroses, menopausal and menstrual molimena, insomnia.

Dose: 1 or 2 tablets t.i.d — Bottle of 50 and of 100 tablets

At All Prescription Pharmacies

STANDARD PHARMACEUTICAL CO., INC., • 253 West 26th St., New York

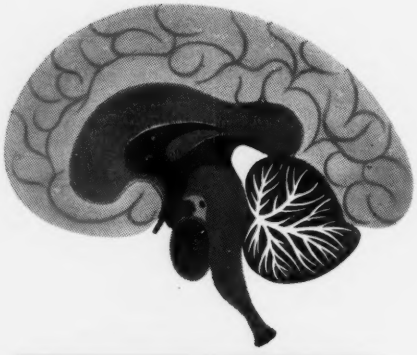
For Intestinal Dysfunction
NUCARPON®
Each tablet cont: Extract of Rhubarb, Senna, Precip. Sulfur, Peppermint Oil, Fennel Oil in activated charcoal base

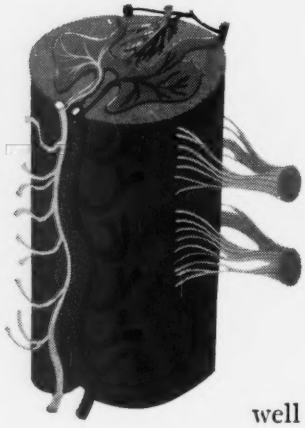
For making Burow's Solution U.S.P. XIV
WET DRESSING Use
PRESTO-BORO®
(Aluminum Sulfate and Calcium Acetate)
POWDER IN ENVELOPES
— TABLETS —
For treatment of Swellings, Inflammations, Sprains

For Pulmonary Conditions
TRANSPULMIN®
3% solution Quinine with 2½% Camphor for Intramuscular Injection.

relaxes both mind & muscle

without impairing mental or physical efficiency





well tolerated, relatively nontoxic/no blood dyscrasias, liver toxicity, Parkinson-like syndrome or nasal stuffiness/ well suited for prolonged therapy

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets. *Usual dosage:* One or two 400 mg. tablets t.i.d.

For anxiety, tension and muscle spasm in everyday practice.

Miltown®

tranquilizer with muscle-relaxant action

2-methyl-2-n-propyl-1,3-propanediol dicarbamate

THE ORIGINAL MEPROBAMATE

DISCOVERED & INTRODUCED BY

WALLACE LABORATORIES

NEW BRUNSWICK, NEW JERSEY

CM-6082